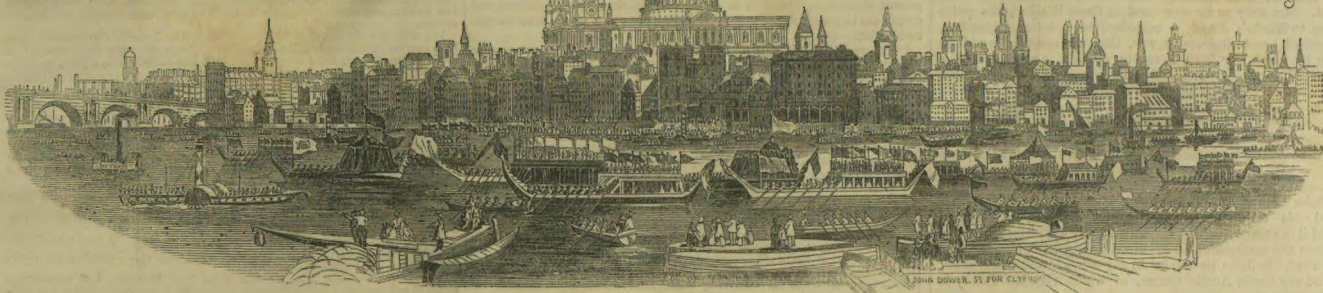


THE ILLUSTRATED LONDON NEWS



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SATURDAY, SEPTEMBER 20, 1851.

{ Two Numbers, 1s.
WITH WHOLE-SHEET SUPPLEMENT, GRATIS.

THE ARCTIC EXPEDITIONS.

A RAY of hope has broken in upon the darkness which has so long surrounded the fate of the gallant Sir John Franklin and his companions. Expedition after expedition has returned, bringing no news of the wanderers, or only such scanty and indefinite information as served to defer hope and make the heart sick. But more positive intelligence has at length been gained. The brave mariners have not been found; but it has been proved almost beyond the possibility of a doubt, that the Great Arctic Ocean has been discovered, that Sir John Franklin has sailed into it, that, in confirmation of a supposition entertained long since, this vast Polar Sea enjoys a milder temperature than the Arctic regions previously known, and that it abounds with animal life. Under these circumstances, despair for the safety of these gallant men is clearly premature, and another effort to rescue them, if living, and to discover their fate, if dead, is no less clearly the sacred duty of the nation.

The information on which this hope is founded was brought by Captain Penny, of Captain Austin's expedition, and is of a date considerably later than the accounts which appeared in our Journal of last week. That our readers may fully comprehend the importance of the intelligence, we shall recapitulate as succinctly as we can the efforts hitherto made, and the course taken by the last expeditions which were sent to the rescue. When he left England on this memorable, and let us earnestly hope, this not altogether fatal enterprize, Sir John Franklin received from the Admiralty instructions as to the course he should pursue. In the first instance he was to proceed through Barrow's Straits as far as Cape Walker, at the western extremity of that channel, and from thence endeavour, by sailing in a south-westerly direction, to reach Behring's Strait. In case of his inability to discover a channel in

the direction indicated, he was directed to retrace his course down Barrow's Strait as far as Wellington Channel, and to try a north-western route to the desired point—Behring's Strait. It seems reasonable to believe that the gallant officer met with no casualty



THE EUPHRATES VALLEY ROUTE TO INDIA.—RAY OF ANTIOCH: MOUNT CASIUS IN THE DISTANCE.



THE EUPHRATES VALLEY ROUTE TO INDIA.—ALEPPO, FROM THE ANTIOCH ENTRANCE.—(SEE PAGE 340.)

reports of several additional cases of arrest of fugitive slaves in various parts of the Union.

QUAKER CRICKETERS—A match took place on Saturday last between eight of the Kendal National School Cricket Club, and sixteen of the Kendal Friends' School Cricket Club (including John Hartley, of the Kendal Cricket Club), when the Quakers proved to be the victors. The Quakers were the only team to bat in their opponents in drab, who succeeded in scoring 36. The National School Club then went in, but their more opponents were too many for them, and they only scored 17. The Quakers then batted, and scored 52 runs in their first innings, and 69 in their second. The National School Club batted in both innings, leaving the National School to get 52 in their second innings. They, however, only scored 47, being beat by the broadbrims by five runs.

A man was run over by an omnibus in the Strand on Monday, a killing which has caused much excitement. The vehicle was racing against time, and the driver was taken into custody.

The extreme severity with which the French Government considers it necessary to visit those journalists who take up a decidedly hostile attitude to the "powers that be" is somewhat startling, and appears to us this side of the Channel cruel and oppressive; for it is difficult to believe that society at the present moment in France is in so highly explosive a state as that any real danger can be justly apprehended from the sparks which fly out from the editorial anvil.

L'an mil huit cent cinquante et un,
Le quinze Septembre,
Le Président de la République Française,
Louis Napoléon Bonaparte,
posé la première pierre des Halles de Paris,
En présence du Ministre de l'Intérieur,
M. L. Faucher;
Du Préfet de la Seine, M. J. J. Berger;
Du Préfet de Police, M. P. Carlier;
des Membres de la Commission Municipale.

HOLLAND.

On Monday last, the 16th, the King of the Netherlands opened the States General. His Majesty's speech alluded to the favourable state of the country—to the conclusion of treaties with various states for increasing commercial intercourse—to the progressive development of trade and manufactures—to the improvement of agriculture—to the increased modes of communication by land and water—and, finally, to the favourable appearances of the tobacco, whiskey, and wine trade. His Majesty to submit at an early period measures for diminishing the public debt.

On Monday last, the 15th, the King of the Netherlands opened the States General. His Majesty's speech alluded to the favourable state of the country—the conclusion of treaties with various states for increasing commercial intercourse—to the progressive development of trade and manufactures—to the improvement of agriculture—to the increased modes of communication by land and water—and, finally, to the favourable appearances of the exchequer, which would enable his Majesty to submit at an early period measures for diminishing the public debt.

The collector of customs at New Orleans has been removed from office to alleged indifference in Cuban matters.

It appears, with reference to Mr. Owen, the Consul at Havana, that the men who were executed had leave to write to their friends. A number of these letters came into the possession of the Spanish Consul at New Orleans, whose intervention was the cause of the intervention of the Department of State, the usual course of procedure being for the Department of State to demand the release of the prisoners. Some of the Americans dying abroad; but, on the representation of many persons, he deposited them in the post-office, and some of them had reached their destination. Many of these letters have been published. From them it appears that Col. Crittenden and 114 men were left at the Bahia Honda by Lopez, in charges for the baggage, while Lopez advanced to Los Pozos. On the next day 700 Spaniards

landed from those *barrao*, and cut off Crittenden from his companions. He made an attempt to join his comrades, but was repulsed. He was then taken to the *barrao* and put in the *barrao*'s little party, who spent the next few days and nights in the chapparrals, without any sustenance. Fifty of them afterwards made their way to the sea-shore, where they found food and shelter. The remaining prisoners by the *barrao*. There are still 64 of this party missing. Forty of them are reported to have been shot in a small farm-house near the mouth of the Rio Grande; but the *barrao* and a Spanish Lieutenant is represented as having reported that on the 14th he came upon two men, guarding an equal number of their wounded comrades, all of whom were dead. It was reported that the remaining twenty-four were shot in the *barrao* and slaughtered.

The New Orleans papers also publish letters from Brandt, James, and

The Canadian Parliament was prorogued by the Governor-General, on Saturday, the 30th of August. The Royal speech represents the revenue as in a satisfactory state, and refers to the grants for improving the navigation of the St. Lawrence, and to the reduction of the emigrant tax. Six bills were reserved for the approval of the Queen, three of which relate to churches and rectories, two to the reduction of salaries, and one to the incorporation of the Fort Erie and Buffalo Suspension Bridge Company. The reciprocity question was left unsettled.

The reduction in the civil list, authorised by the Imperial Government, have been carried out by the Legislature. The salaries of the Chief Justices and that of the Chancellor are to be reduced from 4800 dols. to 3600 dols. a year, upon the departure of the present incumbents from office.

The potato rot is prevailing to a great extent in Upper Canada.

INDIA AND CHINA.

Advices by extraordinary express, dated Calcutta, August 8, and China, Ju'y 24, have been received this week. Cholera was very rife, and vast numbers of the people fell victims to the disease.

Advices by extraordinary express, dated Calcutta, August 8, and China, July 21, have been received this week. Cholera was very rife, and vast numbers of the people fell victims to the disease.

The state police officer, Dewan of Mooltan, had been removed from Calcutta to Allahabad, in consequence of serious indolism, and not from a plot to effect his escape, as falsely reported.

The territories of the Nizam had escaped seizure for the present by payment of a great part of the debt, viz. 40 lakhs of rupees.

On the 10th July, no less than 100,000 individuals were congregated together to witness the dragging of the car of Jagernath.

A good delivery took place at Acra on the 2d of August. Amongst those discharged were Desbat Dint, nephew of Dewan Moolraj, Toolese Ram Kar, and others.

A rumour was afloat that the hill tribes near Peshawar had successfully attacked our outposts; but subsequent inquiry led to the belief that it was destitute of truth. The troops at Peshawar were suffering much from illness. Ghoolab Singh was engaged in hostilities with some of his neighbours in the mountains to the north of Cashmere, but with what results we are not informed.

From China the accounts by the present mail are of more than usual interest. The insurrection was spreading, and a battle had taken place at Luk-wee, in which the Imperial General Wu-lan-ti was totally routed, with a loss of 1000 men, while he himself was severely wounded. The British Consul at Hongkong, while he himself was to be resorted to. A notification had been given to all British merchants, that in future no British consuls would be allowed to interfere with the collection of duties on articles imported or exported by vessels belonging to Great Britain. This new order had created considerable sensation among those to whom it is addressed. We are sorry to hear that the late Mr. Hoagland, who was in the *Albatross* on her last voyage, is so much as the corresponding time last year. The following is an extract of a letter dated Singapore, 30th of July:—“I deeply regret to inform you of the total loss of the Peninsular and Oriental Company's steamship *Pacha*, sunk on the night of the 21st inst., off Mount Formosa, after sustaining a severe collision with the *Albatross*. The latter vessel, which was on her homeward passage, had been taken on board by the crew of the said officer, and was thus cast adrift.”

ENGLAND AND FRANCE.

[illegible][illegible]

into every department of the Gazette, of the 12th inst. quotes the following from the *Journal de Nîmes*: "At about eleven o'clock on Saturday night, a band of 48 peasants, from the county of Nîmes, were returning from Broze, a French village close to the frontier, with a quantity of salt, the price of which in France is 38, half less than in Piedmont. The Customs officers to the number of 12, were posted on the frontier, and a dreadful collision ensued, in which 12 of the peasants were killed. Some of the Customs officers were slightly wounded. *Le Giornale delle Due Sicilie* states that a woman named Fiorenza Addiego died, on the 26th ult., at Santa Maria di Capua, at the age of 17. She had had three husbands, and has left two sons, one born in 1774, another in 1788. She had constantly enjoyed perfect health, and up to her death remained in the best of spirits."

SHOCKING DEATH.—The Dowager Duchess de Maille has just been buried to death at the *chateau* of La Rocheguyon, France, where she was on visit with her friend, the Duchess de Larochevaucand. She was found in her room near a wastight, when a current of air sent the fire which was burning on her dress, which caught fire; in a moment she was enveloped in flames, and died so suddenly that all the aid of medical art could not succeed in saving her life.

STEAM COMMUNICATION WITH AUSTRALIA.

The following are the conditions upon which the Lords Commissioners of the Admiralty are ready to receive tenders from persons willing to provide for the establishment of steam communication with Australia, the tenders to be delivered on the 4th December. The contract to continue in force for four years, and may be terminated by a twelve-month's notice from either party:—

"The tenders are to be for vessels propelled by screws, and they may be made either for a line of steamers between the Cape of Good Hope and Sydney, in continuation of the existing line between England and the Cape, or for a new line extending the whole way from England to Sydney.

"The parties tendering are to frame their offers for two different contingencies:—

Under the first, the steamers would be required to stop at King George's Sound, Adelaide, and Port Phillip, on their way to and from Sydney.

"Under the second, the steamers would stop only Port Phillip onwards, where a branch steamer, to be provided by the contractors, would take the mails and convey them to Adelaide and King George's Sound, and return to Adelaide to meet the homeward steamer.

"The tenders are to state for what annual sum each of these two routes would be undertaken by iron screw as by wooden vessels; and also the day on which the parties will be prepared to commence the service.

"The contractors must engage to convey the mails and despatches six times in a year each way, and will have to deliver and receive mails at Sydney, King George's Sound, Adelaide, and at such other places as the Lords Commissioners of the Admiralty may from time to time determine and direct, both on the outward and homeward voyage to and from Sydney.

"They must also engage to convey them at a speed which, on the average of each voyage, shall not be less than 8½ knots an hour, as a precaution against failure in this condition, no vessel will be accepted for the performance of the contract which is not found, on trial at the measured knot on the Thames, to attain the speed of nine knots an hour, to the satisfaction of the said commissioners, propelled by steam alone and without the aid of sails.

"They must likewise engage to supply, during the continuance of the contract, vessels equal in number and size to those specified in their tender, and these vessels are to be subject at all proper times to survey by officers in the employment of the Admiralty, and any defect discovered on such survey to be immediately made good by the contractors. This survey to extend to the crew, officers, and engineers and machinery, as well as the hull of the vessel.

"The vessels to be always supplied and furnished with all necessary and proper machinery, engines, apparel, furniture, stores, tackle, boats, fuel, oil, tallow, provisions, provisions, and such other things as may be proper means for equipping the vessels, and to be rendered them constantly efficient for the service to be performed, and also manned and crewed by suitably qualified and competent officers, and a sufficient and able seamen and other crew.

"The days and hours of departure and arrival at each port are to be fixed by the said commissioners, and may be altered from time to time by them on giving a notice to the contractors of three months.

"The said contractors are to have power of ordering the vessels to be so arranged and constructed as to be capable of carrying with efficiency such armament as they may consider suitable; and for this purpose may require the designs and plans of all vessels, to be built for the performance of the contract, to be submitted to them previously to their construction.

"Proper accommodation is to be provided, free of expense, for the naval officer in charge of the mails; but the parties tendering are at liberty to state what deduction they would make in the event of this condition not being required.

"A penalty of £1000 to be incurred when the contractors fail in providing a vessel, in accordance with their agreement, ready to put to sea at the appointed hour; and also the sum of £50 for every successive day which shall elapse until such steam-vessel actually proceed to sea; but the payment of such penalty shall not be enforced in the event of such default being proved to the satisfaction of the said commissioners to have arisen from circumstances over which the contractors and their servants had no control.

"A penalty of £100 to be incurred if the vessels stop, linger, or deviate from the right course, or put back or return, except from stress of weather or other unavoidable circumstance, or unless authorised by the officer in charge of the mails.

"The said commissioners shall at any time during the continuance of the contract, in case of great public emergency, have power and be at liberty to purchase all or any of the vessels at a valuation, or to charter them for the same exclusively for Her Majesty's service, at a rate of hire to be mutually at the time fixed and agreed on by them and the contractors; but if any difference should at any time or times arise as to the amount of valuation or hire so to be paid, such difference shall be referred to two arbitrators, one to be chosen from time to time by the said commissioners, and the other by the contractors; and if such arbitrators should at any time or times not agree in the matter or question referred to them, then such question in difference shall be referred by them to an umpire to be chosen by such arbitrators before they proceed with the reference to them; and the judgment and award of the said arbitrators, or the separate award of the said umpire when the arbitrators cannot agree, shall be binding and conclusive on all parties.

"The contractors shall undertake for themselves all arrangements relative to quarantine, as connected with the due and regular performance of the conditions of the contract.

"The contractors shall not assign, under-let, or dispose of the contract, or any part thereof, without the consent in writing of the said commissioners; and in any case of any deliberate or wilful breach thereof, or of any neglect or default by the contractors, they may terminate the contract without any previous notice to them, nor shall they be entitled to any compensation in consequence of such determination.

"No member of the House of Commons shall be admitted to any share or part of the contract, or to any benefit to arise therefrom, in pursuance of the provisions of the act of Parliament in that behalf made.

"The contractors to be bound with two responsible sureties, to be named in their tenders, in the penalty of £4000, for the due fulfilment of the contract;

and they must furnish the names of the parties of whom inquiries can be made as to their responsibility."

THE GOVERNMENT AND THE AUSTRALIAN PACKET SERVICE.

The advertisement from the Admiralty for tenders for a steam communication to Sydney at intervals of two months, by the Cape of Good Hope, at a speed of 8½ knots per hour, is looked upon in the City as simply ridiculous. It has not awakened the slightest interest on the part of any of the merchants connected with Australia, and the only hope it seems to have created is, that it may serve as another and final illustration of the way in which our mail contract system is suffered to cripple a branch of enterprise for which we have greater advantages than any other nation. The population of Australia, exclusive of New Zealand, is little short of 400,000 souls, and its rate of increase has been about 100 per cent. in 10 years. She takes of our manufactures an annual total of between £2,000,000 and £3,000,000 sterling, that is to say, as much as the whole of our North American possessions, more than the whole of our West Indian colonies, and more than the whole of our East Indian possessions, and more than four times as much as the Cape of Good Hope. Steam-mail contracts to our North American colonies have been granted for the last twelve years, and now cost £169,000 per annum. By the West Indies the same advantage has been enjoyed for ten years, and the cost per annum is £240,000. Lastly, to the Cape a similar grant has been made, involving an annual expenditure of £31,000. Under these circumstances, Australia for five years implored the Government either to deal with her in the same way, or, at all events, to leave her free to obtain from our merchants and capitalists the natural benefits which her enormous and growing trade would speedily have ensured. She offered, moreover, to contribute some portion of the expense. But, although the cry continued throughout the whole of that period, and scarcely a letter was received from her merchants which did not contain some bitter expression at the treatment practised, neither warnings nor appeals had the slightest effect. The public meetings of the colonists, which were almost confined to petitioning for steam communication, and protesting against convict immigration, were answered by steady obstruction in the former case, and in the latter by the introduction into Van Diemen's Land during the past year of no less than 2894 criminals. Finally, the announcement was made that what had been denied to Australia, with her 400,000 prosperous and enterprising inhabitants, was forthwith to be granted to our African stations at Sierra Leone, Cape Coast Castle, and Fernando Po. The crowning feat of the history seemed thus attained, and here it actually stood at the commencement of the present month.

Suddenly, however, came the news, which may possibly, in the course of another year, attract to Sydney every ship and steam-vessel that can get there. The number of ships that entered San Francisco in the quarter ending September, 1850, was 484, with a total burden of 149,354 tons—many of them steamers of the largest kind, which have since been followed by others, working not only without the advantage of a Government contract, but absolutely in profitable competition with those so favoured. With her existing population, her splendid harbours, and other attractions for immigrants, no reason could be shown, supposing the gold discoveries confirmed, why the marvels to be witnessed at Sydney should not exceed those of California. At this juncture the Government resolved to act, and consequently, to a colony which can now boast the prospect of seeing its harbours thronged with ships of all kinds and all nations, the boon is at length conceded of a slow steamer from the mother country six times in a year. Anything more ludicrous was perhaps never yet recorded, even among all that has occurred in the shape of Government interference with commerce. But, absurd as it is, the evil connected with it may still be serious. So completely has self-reliance been devalued in this country as regards the establishment of steam lines by the pernicious influence of monopolies, that even with existing prospects it is probable no body of persons will be found bold enough to start an independent enterprise. More than a year ago, the Pacific Steam Company, of Liverpool, tendered a monthly mail for £48,000 per annum. If it were safe at that time to offer to undertake it with such a payment, the improved circumstances of Australia, her increased traffic with the west coast of America, and the opening up of the Nicaragua transit, to say nothing of the gold question, would now seem at least to warrant an experiment without any such aid. Of course, if the postages, or even half of them, were allowed, there would not be a moment's difficulty, but it is in that point that the power of the Government lies, and it has it in its power to endeavour to disturb their routine views, whatever they may be, so done should be done without them. The colonists, moreover, would be far more willing to patronise and make sacrifices for a line that should boldly start on its own resources, than for one which had subjected itself to all sorts of nagging shackles and delays in negotiating with the Admiralty, and other humiliating invitations of the Lords of the Admiralty. At all events, if the gold news be confirmed, and no steps are taken, we may at once resign the South Pacific to the Americans, along with the North. They know the field it presents, and, if we are indisposed to share it with them, it is to be regretted that we shall be rational enough not to contend when they shall render the service to our fellow-countrymen at the antipodes, of regularly conveying goods and intelligence many days in advance of the remarkable fleet for which, since the receipt of the recent tidings, the Government has so suddenly advertised. Times.

TELEGRAPH IN BRITISH NORTH AMERICA.—The wire between Quebec and Halifax, including the submergence in the Gulf of St. Lawrence, is nearly completed. A new feature, alike feasible for adoption, but apparently not thought of in this country, has been introduced in America—that of marking the distance by railway on the telegraph. The directors having taken possession of the Kennet and Avon Canal, have been over it to make the necessary traffic arrangements for working it in connexion with the railway, to commence on Monday next.

CONVICT PRISON AT PORTSMOUTH.

A large convict prison, designed as a substitute for the present mode of locating convicts on board hulks in the harbour, is now being completed at Portsmouth. At its commencement the inhabitants of the borough manifested much opposition and repugnance at the location of a large number of convicts on shore and in the midst of a dense population; but this opposition has since subsided, although much of the repugnance remains, and the Home-office has proceeded with the rapid erection of the building. The prison is situated at the south-east boundary wall of the dockyard, with which it will have means of access and ingress for the convicts employed in that establishment; the site of the building being that formerly occupied by the Old Laboratory. It is constructed to accommodate about 1000 prisoners; and the object of this substitution of a prison for hulks is understood to be the necessity for exercising a larger amount of discipline and authority over the convicts than is possible on board ship. The arrangements on board the latter do not prevent communications being carried on between the inmates of the different cells; consequently the convicts will be met of really making the convict's term of imprisonment what it is designed to be—a punishment—by means of strict discipline and full control on the part of the officers, on the other hand he will be freed from the penitentiary conditions in which he is at present placed.

The above are the alleged reasons for this change in convict location, but by some it is believed to be only the commencement of a comprehensive plan for meeting the difficulties arising from the objections of the colonists to convicts being sent amongst them, by establishing a series of convict prisons or "homes," as they have been called throughout this country, for retaining felons in.

The plan of the new building comprises an east and west wing, between which are situated kitchens, cooking, washing, and other domestic offices. To the north of these is a chapel, and to the east the residence of the governor, chaplain, and other officers. The whole of the buildings are of brick, and are surrounded by lofty walls. The walls of each wing are roofed over with slates, having a range of skylights on each side. Down the entire centre of each wing is a spacious corridor, having the prisoners' cells on either side and opening into it. The west wing is 292 feet long, the east wing 236, both being 36 feet wide. There are four tiers of cells, each cell 7 feet by 4, and 7 feet in height, on both sides of the corridor. All the cells are fitted with a desk, for writing or reading, a seat, hammock, and shelves. The divisions between the cells are of a very simple and, both as far as space and cost are concerned, of a very economical character. The walls of each wing are formed of plates of corrugated iron, the ceiling of the under cell and the floor of that above it are at once formed of a plate of stout plate. The upper tiers of cells open on to light from galleries, reached by flights of stairs of the same material. Some of the cells are supplied with light by glazed openings in the wall, whilst others derive it from a small aperture in the wall, each cell having a door from proper apparatus finding its way into the cells, and expelling any foul air that may be generated through apertures provided for the purpose. In addition to these cells there are 40 punishment cells in course of construction, each 10 feet by 6, and 9 feet in height. The contractors for the entire building are Messrs. Piper, of London, and the work has been carried on under the direction of Colonel Jebb, the Home-Office Inspector of Prisons. The immediate superintendence of the building has been confided to Mr. C. J. Woolcott, the Government clerk of the works. It has been constructed with great rapidity, not having been six months in course of erection; and by the 1st of October it is expected that the larger wing will be occupied by prisoners.

IMPORTATION OF RIPE PEACHES FROM NEW YORK.—It is well known that the United States produce immense quantities of that delicious fruit, the peach, and, so far as we have heard, none have ever been brought into this country. A gentleman on board the *Arcton* has, however, made the attempt, and, with some care, has succeeded in bringing them in a perfect state. He has brought them as a present to the family and friends of a gentleman farmer of this town, who may, therefore, claim to be the first importer of ripe peaches from the United States to England.—*Liverpool Mercury*.

CUTTING A CORPORATION.—It seems that the Great Northern Railway directors have given great offence to the authorities at Huntingdon by hastening the Royal train so rapidly past that town on Her Majesty's trip to Scotland. It appears that the corporation had prepared a congratulatory address to present to the Queen, and that the townspeople had made extensive preparations to testify their loyalty to the Crown. The Earl of Sandwich, the Lord-Lieutenant of the county, has been appealed to on the subject, and, by his Lordship's reply to the Mayor, it would seem that he was authorised to state that her Majesty regretted that so much loyal feeling should have been rewarded by disappointment.

We learn from Constantinople, Sept. 2, that the American frigate *Mississippi*, which had gone around on entering the port of Smyrna, floated again on the 25th ult., and arrived at Constantinople on the 30th.

A return has been printed by the House of Commons, showing the number of convicts who arrived in Van Diemen's Land during each year, from the 1st January, 1829, to the 31st December, 1850, from which it appears that the total number was—males, 48,427; females, 9816. The number of emigrants to Van Diemen's Land from 1830 to 1837 was 14,115. The return of emigrants themselves, wives and families of convicts, from Great Britain to Van Diemen's Land, from 1838 to 1850, was 5559.

At Ballinacorney Powder-Mills (Cork), on Saturday morning, one of the cornings houses blew up with a fearful explosion, by which a man was killed, and several dreadfully mutilated, one of whom is not expected to recover.

NEW ROUTE TO INDIA.

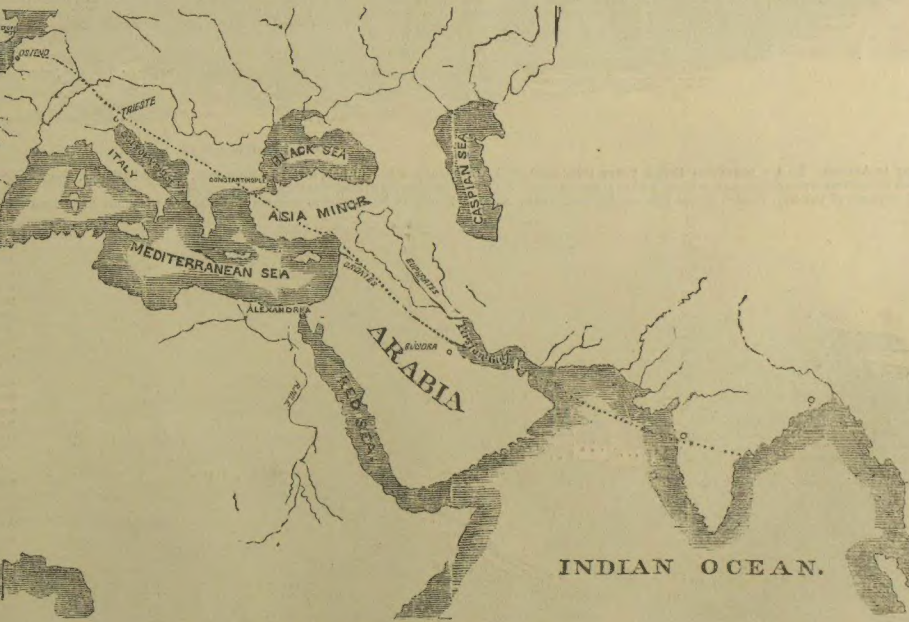
A somewhat startling announcement has just been made of a project for bringing London and Calcutta within seven days' journey of each other; and examination of the means proposed would justify our expectation that the consummation is not far distant.

The ancient route from England to India was round the Cape of Good Hope—a passage which was performed wholly by sea, and which generally occupied of late years about 100 days. In 1840, the first step of a new system had been taken by turning the course straight to the East at the Out of Gibraltar, carrying it along the Mediterranean Sea across the Isthmus of Suez, down the Red Sea, and so over the Indian Ocean to Bombay, or round Ceylon to Calcutta. Nor was this all; for by traversing France from Calais to Marseilles, the distance from Cape St. Vincent to Calcutta, exactly resembling on a smaller scale that round the Cape of Good Hope—was altogether escaped, and the route assumed the appearance of a tolerably straight line from Calais to Aden. This gain had been effected partly by the division of the voyage into stages, whereby steam power became available, but more notably by the substitution of overland cuts for long sea circuits. Thus, the cut from Marseilles saved the circuit round Spain, and that across Egypt the vast circuit round the Cape. Now, to put the matter concisely, this substitution of land carriage for water carriage is the one simple principle of the scheme before us, and the problem is nothing more than this—how to eliminate from the route between Marseilles and Calcutta those portions which are still performed by sea, and substitute instead thereof some means of transport by land.

The sea stages of the present route to India, exclusive of the trip across the Channel, are three—from Marseilles to Trieste or Alexandria, and the other from Suez to Bombay or Calcutta. These stages constitute by far the longest part of the journey, being 5075 miles, performed by steamers, from which an average speed of some ten miles an hour is all that can be expected.

The longer, again, of these two stages is that from Suez to Hindostan, as it includes a circuit round two sides of the triangular territory of Arabia. The first object, therefore, is to get rid of the detour by Aden; and this is to be done by carrying the passengers to the mouth of the Orontes instead of the mouth of the Nile, and forwarding them across the Turkish territory to Bussorah, at the head of the Persian Gulf. The railroad required for this purpose would run along the Euphrates Valley, and its length would not exceed 900 miles, whereas its completion would reduce the distance from London to Calcutta by more than one-half—by 20 days, in fact, out of 36! This project, if it is conceived, could be accomplished in five years' time, and the route would then lie through London, Paris, the Mediterranean Sea, to the Orontes, thence to Bussorah, and by the Persian Gulf to Bombay, where it would meet the Indian railways now actually commenced, and by that time completed to Calcutta. We have thus not only a shorter route, but a more direct one, and we have thus not only a shorter route, but a more direct one, and we have thus not only a shorter route, but a more direct one.

The engraved plan indicates by a dotted line the contemplated route from England to India; from London to Ostend, Cologne, Augsburg, Trieste, Constantinople, via Orsova, on the frontiers of the Turkish Empire, already decided on. From Orsova to Constantinople is only 345 miles. It is not necessary to occupy time at present in speaking of the country through which this line is



MAP OF THE EUPHRATES VALLEY ROUTE TO INDIA.

about to pass, as that portion through Europe is already well known. The route through Turkey in Europe is feasible enough, and easily accomplished. The Turkish Government are most desirous to see this accomplished; and our Ambassador has more than adequate influence with the Sublime Porte, at all ranges, to make necessary to the undertaking through the Ottoman dominions. The steam communication with the Orontes has been already more than once tried; and there is a regular line of steamers between Constantinople, Smyrna, Rhodes, Cyprus, and the coast of Syria. During the last three years, the trade, commerce, and passenger intercourse has more than exceeded the most sanguine anticipations of the various steam companies (Austrian and English) of that line.

The facility of making a railway along the valleys of the Orontes and

Euphrates is admitted, and the rapidity of access to Bussorah by this route is already established. The country on either side is capable of great improvement; and the Turkish Government are fully alive to the importance of railways, and the advantages that must eventually result themselves therefrom. They are now satisfied that the British Government would sustain their Imperial rights; and, as they have hitherto done in regard to the privileges of transit through Egypt, they would feel in honour bound to secure to Turkey her rights as the governing power; and the requisite arrangements between the respective powers could be easily agreed upon. Little or no country would be required to be taken in the purchase of the country through which this would pass, with the exception of some small tracts of country in Turkey in Europe and near to Constantinople, and

THE EUPHRATES VALLEY ROUTE TO INDIA.



TOWN AND FORTRESS OF ORSOVA.

the Imperial Divan would gladly forego its own right to indemnity in any Royal property through which the line may run, both in Turkey in Europe and Asia. From Bussorah the line is open for steamers by way of the Persian Gulf to Bombay and Calcutta.

THE ILLUSTRATIONS.

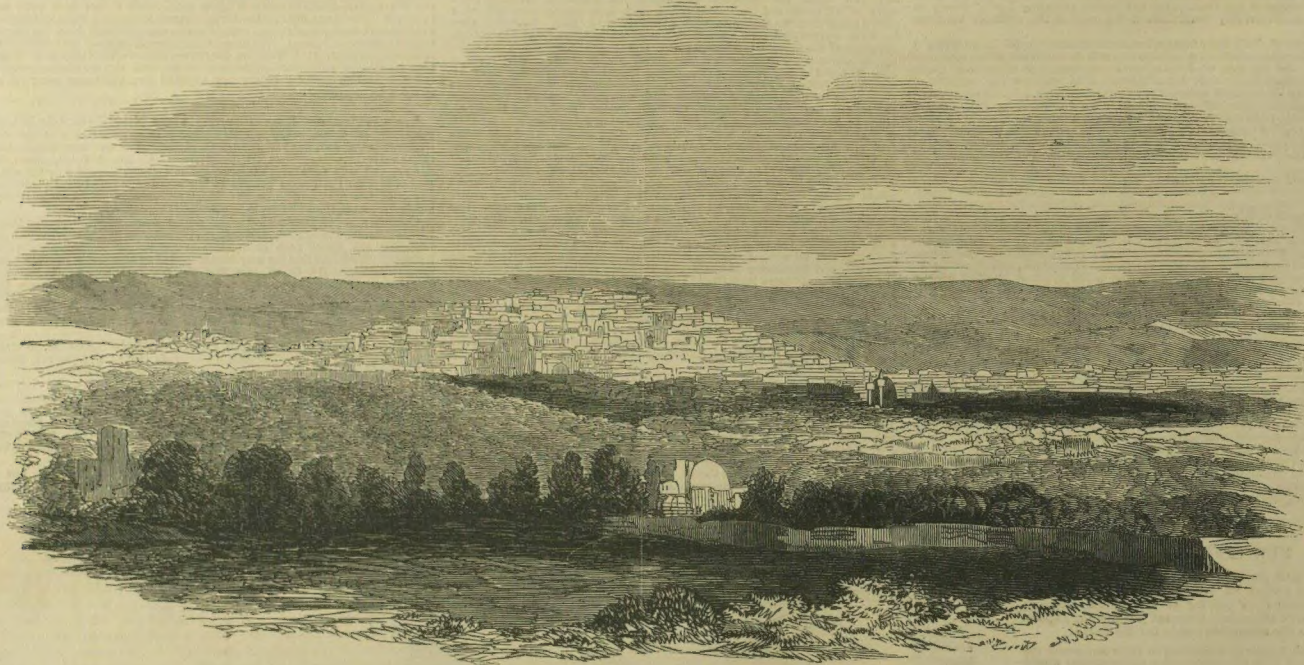
THE BAY OF ANTIOCH.

We cannot better describe this point of the new route than by quoting the letter of Dr. Thompson to the Times:—

"Sir,—It will probably interest those of your readers who take any concern in the above route, to learn that the past and recent reports from the officers commanding her Majesty's ships on the coast of Syria are all and each of them very favourable, and speak in the most encouraging terms of the site and advantages of the Bay of Antioch, and of the superior quality of the water that is obtainable in abundance at the ancient Posideum—a fact the verity of which I can corroborate from a residence and personal examination. The ancient port of Seleucia need require no additional proofs of its importance and capabilities, or of what it might yet become by a very small outlay in clearing away the entrance. 'The passage by the mouth of the Orontes,' say the above reports, 'possesses a grandeur rarely equalled even in this beautiful part of the country, Mount Casius rising abruptly from the sea, with its bold rocky pinnacle towering above the clouds.'

"It is fully anticipated from what has recently occurred, and from the inquiries and steps now being adopted, that Colonel Chesney's long-cherished project will, ere long, be in a measure at least carried out, though by railway, and not, as he anticipated, by steamers, thus verifying the prophecies and traditions of past ages, and, as the Rev. Dr. Keith says, 'proving that other witnesses are not wanting to rise their voice at last from that once frequented but long deserted shore,' and as if the very first fruits of the Euphrates expedition had been destined to be an offering to the cause of Scripture illustration by the concurring solution of another problem than that of the practicability of the navigation of the Euphrates.

"Colonel Chesney, in the 'Journal of the Royal Geographical Society,' commences an admirable article on the Bay of Antioch by a description of the scene that presented itself as the expedition under his command bore down upon the coast of Syria, in order that they might disembark at the very point which formed the ancient port of Antioch. He sought an entrance at that point in preference to all other places whereby to proceed to Beer, on the Euphrates. All the reports state that the Bay of Antioch is very spacious, free from rocks, and well sheltered on every side, with the exception of the south-east, where in the distant horizon rises the lofty island of Cyprus. The anchorage in the bay is, however, good, and the water deep almost to the very beach. Capt. Vansittart's report, which has just reached the Admiralty, speaks of the water at Posideum as the best on the coast; and states that the timber for ship and other building purposes found in the neighbouring mountains, and beyond the ancient Seleucia, is very abundant, and well adapted to meet all such demands. This was the spot selected by her Majesty's ship the *Columbine*, on the 3d of April, 1835, and followed by the *George Canning* under all sail, and which led the way from the offing towards the anchorage, for the disembarkation of the party destined to proceed on the expedition to the Euphrates. Colonel Chesney goes on to say:—'To the south, as we proceeded, was the lofty Jebel al Akrah (Mount Casius), rising 9315 feet above the sea, with its abutments ex-



THE CITY OF BUSSORAH.

tending to Antioch. To the north the Belian range (5537 feet), well stocked with forest trees, chiefly oak, walnut, and fir; and in front the broad expanse of the bay, backed by the hills of Antioch, Mount St.

Symeon, or Ben-Kilishah, covered with myrtle, bay, and arbutus, altogether forming a striking and magnificent panorama. "It may be interesting to mention that this was the point fixed upon

by Bonaparte when he purposed to proceed to the Euphrates. Colonel Chesney further states that in 1811 Napoleon had prepared a fleet at Toulon which was to have disembarked a large force in this bay, and that M. Vincent Germaine was waiting at Antioch for the expected troops, which had, however, in the meantime, been marched to Russia, instead of, as was contemplated, taking the route from Suedia to India. The town of Marash was to have been the centre of Napoleon's operations, on account, probably, of the fine forests near that place; but, as the adjacent Belian mountains would have furnished plenty of fine timber close at hand, it is not likely that this great General would have proceeded to Marash on learning that 110 miles through Antioch and Aleppo would have placed him at Beles, 200 miles lower down the river. There is reason to presume that Napoleon meant to carry his troops down the river to Bussorah, but the Russian campaign put an end to this.

"Who is to say but that even in our own day we may not hear of excursion trains to Palmyra, Bagdad, and the Tigris, by the Great Eastern Orontes and Euphrates Valley's line of railway, the stupendous aqueduct of ancient Seleucia forming a terminus with branch lines to Baalbec and the plains of Issus—the battle-field of Alexander and Darius.

"Yours, &c.,
"5, Suffolk-place."

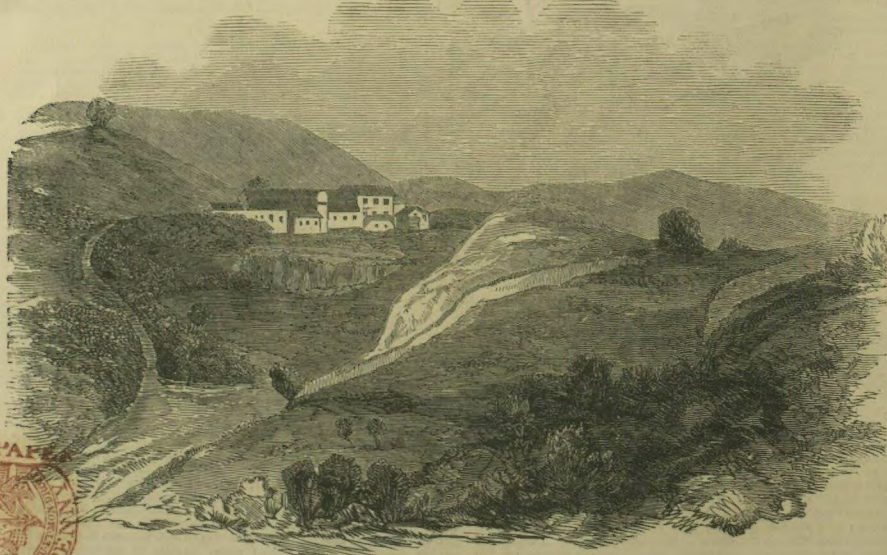
"J. B. THOMPSON, M.D."

"The range of Rhosus and Amanus, or the Faunas, were believed by the Jews to be the Hor-ha-hor of Scripture; and were thus held by them to be the northern frontier of the land promised to their fathers. But, though Hor-ha-hor admits of a more precise definition, the idea that Amanus, which Jerome adopted, was the north border of Israel, is, as we have seen, warranted by many other facts.

"The mountains of Amanus, as Strabo relates, extend from the Mediterranean to the Euphrates. They formed the northern boundary of Syria, fronting Mount Casius, near the base of which is Laodicea, in the land of the Arradites. The Amanus and Rhosus chains are nominally separated by the pass Belian; but they are, in reality, continuous with one another, and are from 5000 to 6000 feet high, and snow clad till June and July generally. The pass of Belian is 1584 feet high above sea level."—(From Dr. Keith.)

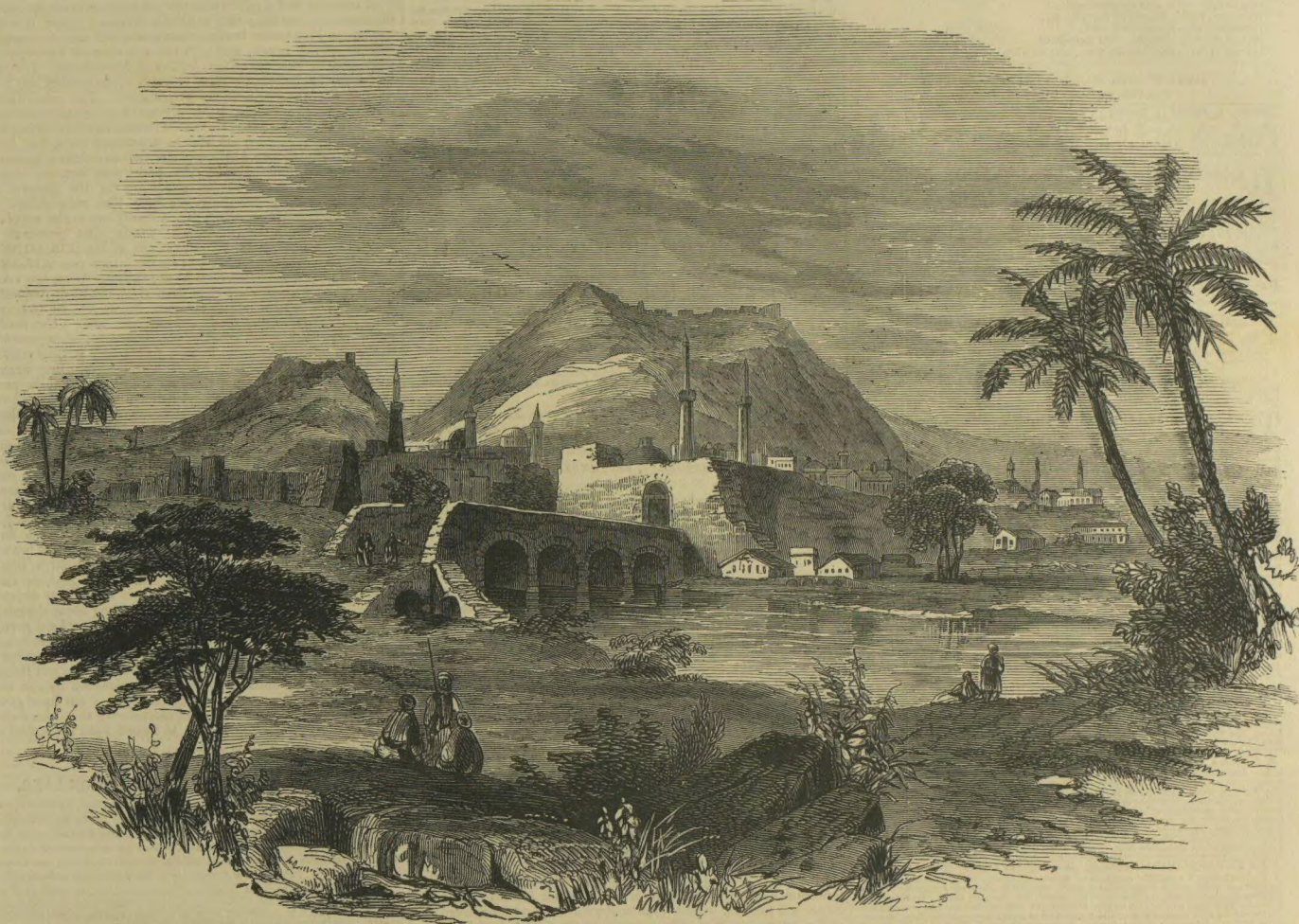
ALEPPO.

Aleppo, or Halep, in Arabic, is a city of 300,000, and the capital of Kinessrin; present population about 90,000. It is one of the best built cities in Syria, and presents at a distance a very imposing appearance, especially its citadel and tower. The view of the Mecca pilgrim caravan is at all times interesting. The pilgrims assemble once a year at Damascus, from Persia, Bagdad, Mesopotamia, and Turkey in Europe, and often number, when joined by the other great caravan from Cairo, as many as 80,000; and 120,000 people at Mecca. The pomp and great display of former days is annually diminishing. The nobles of Turkey went to Mecca formerly; now it is confined to the mercantile classes, who carry on a large trade at the respective stations or stages on the



VIEW NEAR THE CONSTANTINOPLE TERMINUS.

THE EUPHRATES VALLEY ROUTE TO INDIA.



ANTIOCH—FROM THE VALLEY OF THE ORONTES.

route. The caravans of some fifty years ago extended over a line of country for thirty miles.

ORSOVA.

Orsova lies on the frontiers of the Turkish empire, 345 miles from Constantinople; it has a fort with a lofty tower.

NEAR CONSTANTINOPLE.

This spot has already been decided on as the site of a station of the projected railway. In its immediate neighbourhood is an English factory.

BUSSORA.

The city of Bassora, Bussora, or Bosrah is in the government of Bagdad, about 70 miles from the mouth of the Shat-ul-Arat, on its western bank, navigable by vessels of 500 tons burden, and contains 70,000 to 80,000 inhabitants.

The English factory is considered the most beautiful building in the city, whose walls are washed by the river—circumference 7 miles, and 25 feet thick, mounted well with cannon.

SUEDIAH.

The valley of Suediah is thus mentioned in the *London Medical*

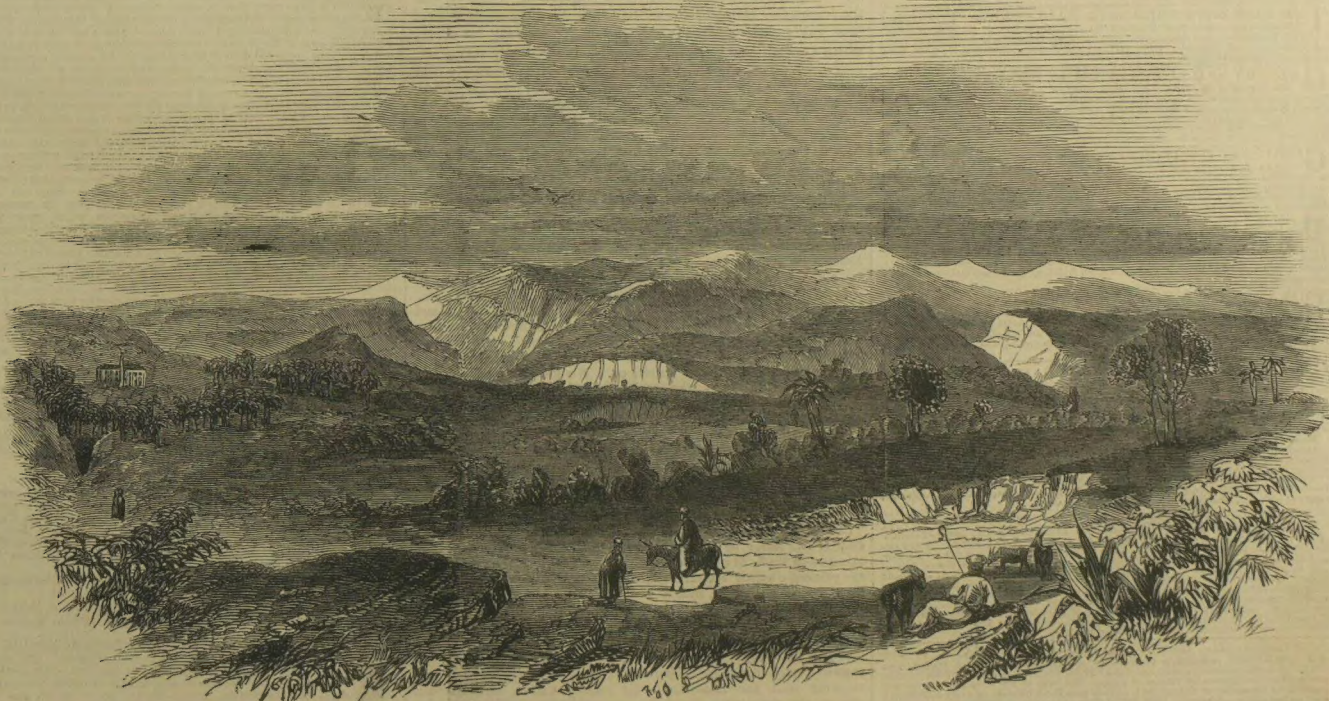
Gazette for May the 9th of this year, page 807:—"Of the climate of Suediah, it is said that a more healthy or a more beautiful spot it would not be easy to find. The climate has been compared to that of the best parts of Switzerland in summer, or the south of France and Italy in winter. It is, in a word, a happy medium between Europe and Asia; and, for persons predisposed to, or suffering from, chest affections, it could not be better. We would refer to the Rev. Dr. Keil's work, "The Land of Israel," for more enlarged views and descriptions of the country along the Orontes and Northern Syria than our space will admit of. We would barely desire to point out the different views as now given, and refer our readers to any gazetteer for more minute and particular accounts than we can be expected to give to each respectively. The Orontes and Antioch, and their associations, sacred and profane, are such that we are satisfied the majority of our readers will examine for themselves all the sources from which they can be further informed as to their respective claims on the attention of every one professing the name *Nazarene*.

ANTIOCH.

Antioch the ancient Orontes, lies 46 miles west of Aleppo, and 22

due south of Scanderoon, or Alexandretta, on the gulf of the same name. It belongs to the Pachalik of Aleppo, and stands in the valley of the Orontes, which here forms a fertile plain, about 10 miles long and 5 or 6 broad. Part of the immense walls of ancient Antioch still remain; and though fallen from its ancient importance, this is still one of the large towns of Syria. The air is reputed to be more salubrious than that of Aleppo. The view of the plain of Antioch from the towers is interesting. The northern portion within the ancient walls is filled with olive, mulberry, and fig trees; and along the winding banks of the river tall and slender poplars are seen. The chief street seems to have run towards the gate of St. Paul, which leads to Aleppo.

People who love to live well, and cheap at the same time, should go to Antioch. Mr. Neale, in his recently published work on Syria, states that he "tried to be extravagant at Antioch, but found it to be impossible—house rent, servants, horses, board, washing, and wine included—to spend more than £40 a year. Oh, that Antioch were London! Fancy 7½ lb. of good mutton for 1s! fat fowls for 2d. apiece 70 lb. of fish for 1s.1 and all possible fruits and vegetables sufficient for one's household for 2d. a week. If we remember aright, the garden of Eden was somewhere near this place.



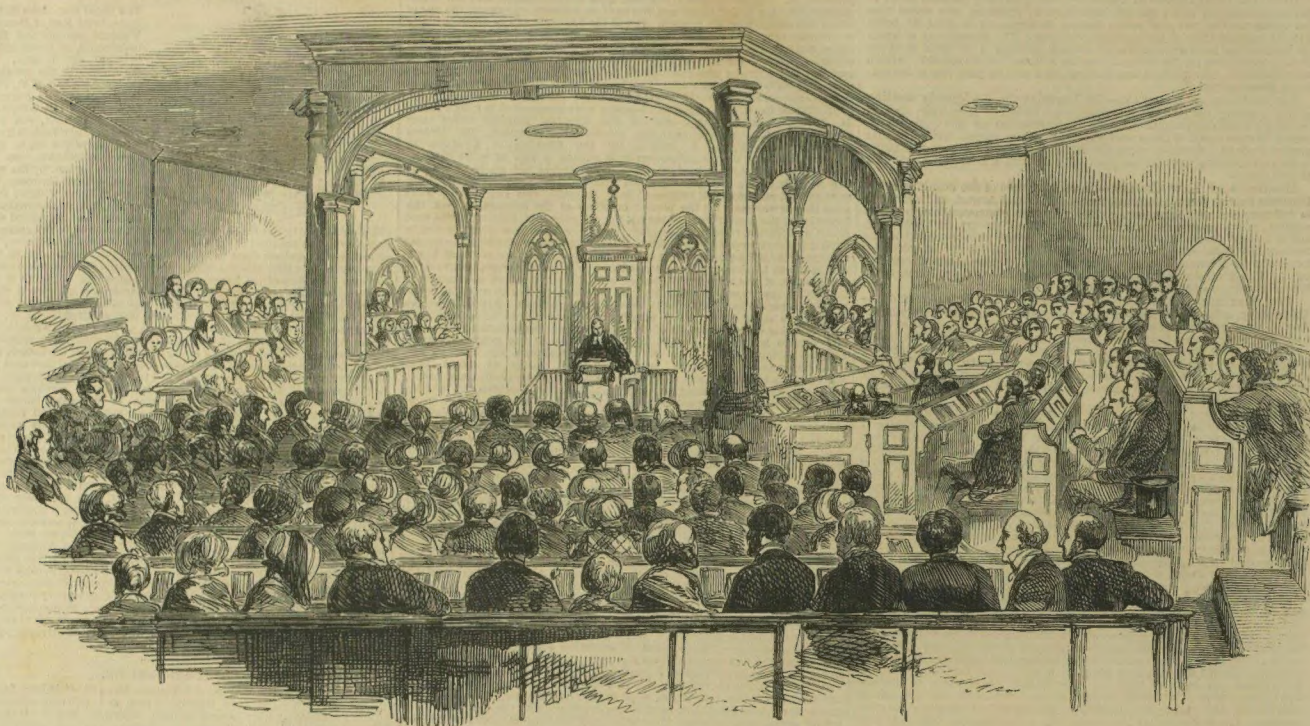
THE VALLEY OF SUEDIAH, WITH THE BRITISH FACTORY ON WOLF'S CRAIG.

open pond at Messrs. Weeks' nursery, King's-road, Chelsea. The whole plant has a gigantic appearance, having twenty leaves, each leaf twelve feet in circumference, and the foot stalks thirteen feet in length. Several distinguished persons, amongst them Sir William Jackson Hooker, are of opinion that the plant grows equally well in the open air as under a glass structure.

OBITUARY OF EMINENT PERSONS RECENTLY DECEASED.

THE LATE VISCOUNTESS DELESFORD has bequeathed a sum of £10,000 to be invested, that will realise 250 guineas annually, to be held in trust for the support of the School of Art, Kent, erected for boys, girls, and infants, and to be expended in connection with, the Incorporated National Society for the purpose of educating poor persons of the Established Church throughout England and Wales: that £100 yearly be expended in clothing for the children of the poor, and other special sums to be laid out annually for general purposes that on Christmas-day, and also at St. Bartholomew's-day (24th August), the commemoration of the foundation of the schools, the children are to be invited to, on each occasion, a public dinner, to be defrayed out of the income of the bequest.

THE LATE FATAL accident recently occurred on the Buckinghamshire Railway, at Biggleswade, has been examined and brought to a close on Monday, the fifth day of the inquest, when the jury returned a verdict of "Accidental Death," coupling it, however, with observations which lay upon the company the blame for the catastrophe. They found, in fact, that the accident occurred in consequence of the negligence of the driver, and recommended that the train was to stop at Biggleswade, that no inquiry be made, and that the train was to stop at Biggleswade. At the suggestion of the coroner, a recommendation was made that all the trains should stop at Biggleswade station.



INTERIOR OF CRAITHIE CHURCH.

THE COURT AT BALMORAL.

At Craithie, during the past week (says the *Aberdeen Herald* of Saturday last), we have been blessed with the finest weather seen at this season for many years. Her Majesty and the Court have been enjoying the pleasures of the country and of the season. The Queen has taken her customary drives, occasionally transferring to her sketch-book the objects which attracted her attention; while the Prince, like other sportsmen, has had his lucky and unlucky days. "Free from all the pomp and pageantry of state, the Royal Family appear to be healthy, comfortable, and happy, receiving, with much condescension, the respectful homage of their subjects, as they meet them in their rambles; enjoying themselves in acts of charity and benevolence, and securing to themselves the devotion, sincere respect, and good-will of all around them."

On Tuesday and Wednesday the accustomed drives and walks were enjoyed by her Majesty, while his Royal Highness was in the glen deer-stalking. On Wednesday the Duchess of Kent visited her Majesty at Balmoral.

On Thursday, the Queen enjoyed a drive by Ballater, &c., passing down one side of the river Dee, and returning by the opposite bank. Prince Albert went out deer-stalking, the Prince of Wales accompanying his Royal Highness to the forest.

On Friday, Prince Albert accompanied her Majesty in a drive to Ballater. The Prince of Wales and Prince Alfred were taken out early for their usual walking and riding exercise; and the Princess Royal and the Princess Alice accompanied their august parents in their drive to Ballater. The Marchioness of Douro, who has relieved the Countess of Desart in her duties as Lady-in-Waiting, was in attendance on her Majesty. The Royal dinner circle included the Marchioness of Douro, the Hon. Miss Byng, Colonel the Hon. C. B. Phipps, and Lieut.-Col. the Hon. Alexander Gordon.

THE ILLUSTRATIONS.

We have engraved a series of pictures from the neighbourhood of Balmoral, and of the Highland meeting at Braemar.

The first Engraving shows the interior of the Kirk of Craithie, where, on Sunday week, her Majesty and his Royal Highness Prince Albert attended divine service. The ladies and gentlemen of the household were in attendance. The service was performed by the Rev. Dr. Macfarlan, Principal of Glasgow University, and one of her Majesty's chaplains in Scotland.

The second view shows a portion of the estate of Birkhall, purchased by Prince Albert. This locality, and the scene of the third Illustration, were thus described in the account of her Majesty's recent arrival at Balmoral:—

"Crossing the water of Lochmuick, her Majesty came in sight of the hills of Lorimuir, on Prince Albert's estate of Birkhall. A very

little farther on, her Majesty saw some of the new cottages Prince Albert has this year built for the accommodation of the cotters and labourers on his estate; and the fine new approach that has been opened up within the last few days to Birkhall. It appears to be scarcely finished yet, but quite fit for use. On Birkhall itself a number of improvements have been effected. The garden has been entirely remodelled, and several fine terraces, plots, and parterres introduced. It is at present tenanted by Sir James Clark, whose lady posted down to Ballater, previously to her Majesty's arrival, to assist in the welcome given to the Royal cortege in that village. Her Majesty then proceeded up the hill, through the woods of Knock, the timber of which is in a very thriving state and pretty large. The Royal cortege then entered Strathgirnock, on the estate of Aberfeldie, of which Prince Albert has a 40 years' lease, and passed the site of the Castle of Strathgirnock, opposite the large bleak hill called Coilsceich. Near this point the water of the Girnock enters the Dee, and the view opens on the north side of the river to the hill of Morven, the top of which was shrouded in a dense cloud. The road then lay through fine groves of natural birch to Aberfeldie. The Royal party next came upon the mansion of Aberfeldie, on which many new improvements have been effected. The whole exterior of the building has been 'harled,' a new belfry erected over the clock, a convenient laundry thrown up near the house, &c. In passing the new Lochnagar distillery, the Clachinturin, and bridge of Craithie, the Royal party had an opportunity of observing the numerous new cottages that have been built by her Majesty this season for the benefit of the poorer cotters on her estate. Craigengowan, the birch-clad hill that surmounts Balmoral, and one of the most favourite walks of her Majesty was the next attraction. A small fog-house has been erected on it, for rest and refreshment."

Since her Majesty arrived she has visited the cottagers whom her bounty supplied with houses, and kindly inquired into their condition, examining very minutely whatever came under her notice.

THE NEW FOREST ACT directs—1. Within three months—that is, before November 7th next—the Commissioners of Woods and Forests are to give notice in the *London Gazette*, and in the Hampshire newspapers, requiring all persons to make their claims to right of common in the New Forest. 2. In not less than six months, or more than nine months, after such notice appears in the *Gazette*, the Venderers are to hold a meeting at Lyndhurst to receive such claims. 3. Claims not preferred at such meeting to be barred and extinguished. 4. A register of claims to be made out, and within one month after it is signed by the Venderers, an abstract to be printed in the *Gazette* and country papers. 5. Persons on the register may object to the names of other persons therein. 6. Within three months after the register is printed, the Venderers to hold a meeting at Lyndhurst, to receive objections. 7. Copies of objections to be delivered to claimants. 8. Register of claims and objections to be completed within two years from the date of the notice in the *Gazette* to make claims. 9. All claims not objected to be good and valid in law and equity. 10. Certificates of unobjected and allowed claims to be evidence in all courts of the rights of common claimants. 11. The Commissioners of Woods and Forests are empowered to object to all or any of the claims which may be preferred. 12. The Judge of the County Court of Southampton to hold courts, at places he may appoint, to decide on all objections, subject to the usual appeal against decisions of County Courts. The decision to be evidence hereafter of the right of common allowed. Since the opening of the railway to Galway, that town has been visited by great numbers of the nobility and other persons of distinction, chiefly en route to the magnificent scenery of Connemara.

THE GATHERING OF THE HIGHLAND CLANS.

THE gathering of the clans in olden times was an event in the national history of Scotland. From the time the Earl of Marr raised the standard of rebellion in 1715, almost within gunshot of where Victoria now has her Highland home, down to the fatal battle of Culloden, the Highland clans were mustered in strong force when the signal was passed through the glens. Now, we have a "gathering" once a year in the "country of Marr," but the signal to rally is the olive branch, and the clansmen muster to show off their Highland dress, and disport themselves in harmless Highland games.

The gathering of 1851 was on Friday week. At early dawn crowds of pedestrians were to be seen wending their way to Castleton, most of them wearing the Highland dress. By nine o'clock, all sorts of conveyances, from the rickety cart to the splendid barouche, were arriving in the village, and groups of the people were congregated at different points, some dancing to the music of the bagpipe, and some trying their hands at the caber or the stone.

About noon, the Duff Highlanders passed through the village, splendidly dressed in their clan tartans, and handsomely accoutered for the sports of the day. They were followed by the Duke of Leeds's retainers, a fine body of men, headed by the Duke as their chief, in splendid costume. Then came the men of Atholl, the Queen's body guard in Scotland, led on by the Duke of Atholl, and marching with music and banners. The clan Farquharson mustered strongly, and in their elegant tartans were greatly admired. They were headed by their chief, Mr. Farquharson, of Invercauld.

The place chosen for the games was a spacious lawn in the park, in front of the old castle of Marr—once the hunting-lodge of Malcolm Canmore. Here the clans formed into three sides of a square, each clan having its standard-bearer in position and its piper ready for the dance. The rear of the clans was flanked by the carriages of the aristocracy who are now in the district, and multitudes of the people who had gathered to witness the games.

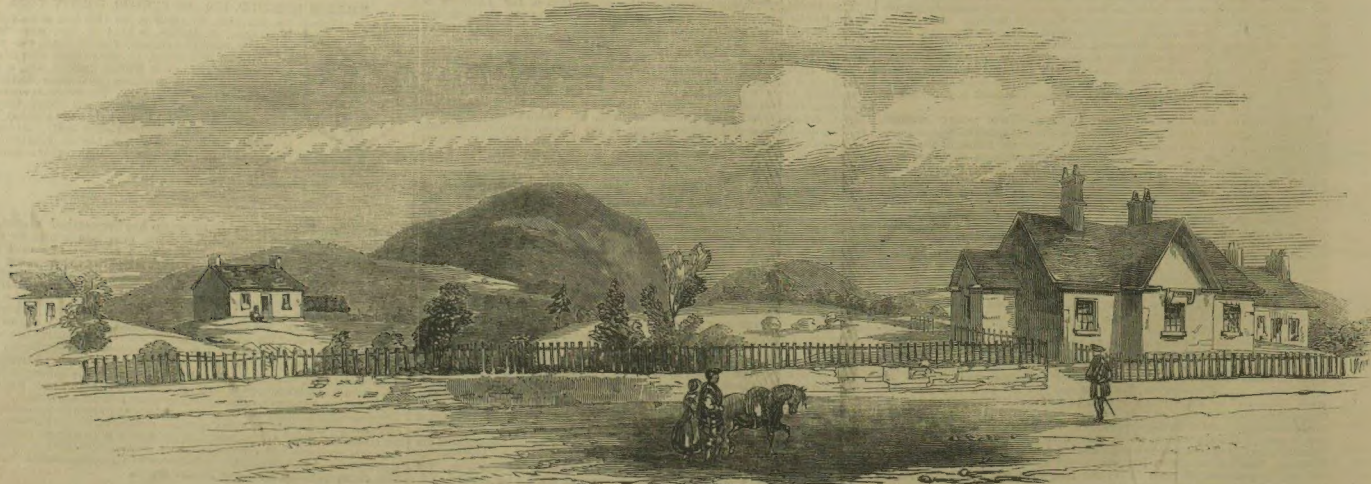
At one o'clock, the terrace of the Castle presented a brilliant display of beauty and fashion, among whom were the following:—

From Balmoral—Colonel Phipps, the Hon. Alexander Gordon, the Hon. Miss Byng, Dr. Baker, and Dr. Robertson.

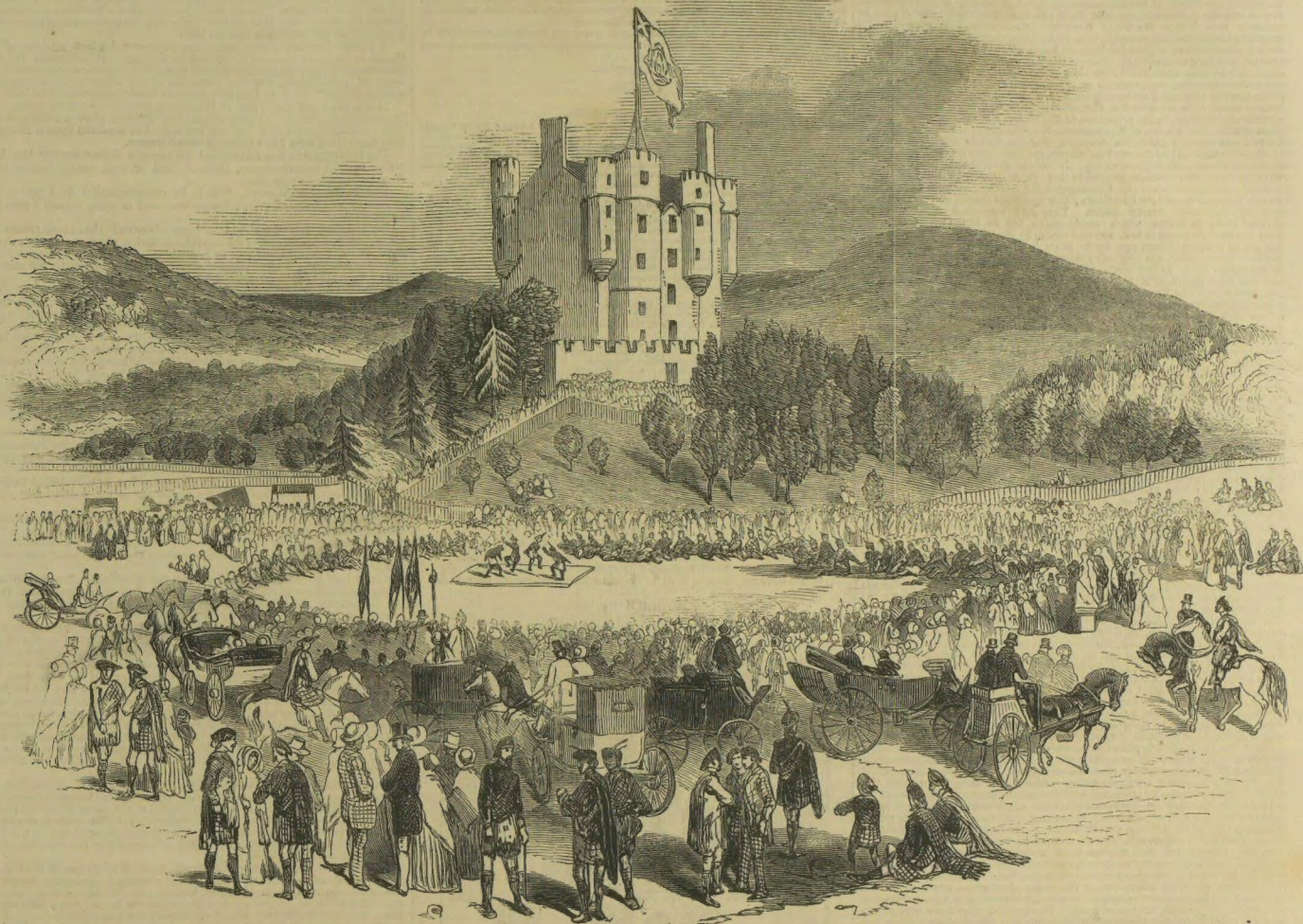
From Aberfeldie—Captain Couper, Lady Augusta Bruce, and Lady Frances Bruce.

From Invercauld—Mr. and Mrs. Farquharson and family, their sons elegantly dressed in the Highland garb; Lord and Lady Charles Clinton; the Hon. Miss Murray, Miss Grant, of Conington, and Miss Dalrymple, of Logie, Elphinstone.

From Marr Lodge—The Duke and Duchess of Leeds, the Duke and Duchess of Atholl, the Hon. Misses Lane Fox, the hon. Mr. Osborne, Captain and Mrs. Sutton, Rev. Mr. Hudson, Colonel Hudson, and Colonel Foster.



MODEL COTTAGES ERECTED AT CRAITHIE, BY ORDER OF HER MAJESTY.



GRAND GATHERING OF THE HIGHLAND CLANS.—THE FARQUHARSON CHILDREN DANCING A REEL.

From Corriemulzie—Lady Agnes Duff and the Misses Duff and Master Duff, Sir James and Lady Catherine Carnegie, Sir Maxwell and Lady Wallace, Mr Brooke, Mr. W. Taylor, Mr John Elsie, &c.

The Queen and Prince Albert sent a donation of £25 towards the prizes for the games, but, the Court being in mourning, did not honour the gathering with a visit. The Messrs. Duff, M.P., and Mr. Ricardo, M.P., who are at Corriemulzie, and other members of the Duff family, were absent out of respect for the memory of General Duff, who had always taken a lively interest in the Mustering of the Clans.

The games began about two o'clock, and for two hours the Highlanders distinguished themselves by strength of arm and agility of

limb. A stone of 14 lb. weight was bowled as many yards with ease; a hammer of 16 lb weight was thrown 69 feet 11 inches; a pole or tree, 15 feet high by 6 inches in diameter, called the "caber," was poised with little effort and tossed right end over end. Reels, strathspeys, the sword and other dances, were danced as none but the Highlanders here can dance them; and a foot race of 1400 yards was contested by a dozen of gillies, the winner going over the ground in 5½ minutes. Formerly, the foot race was upon a steep hill, but the Queen having, with her usual consideration, suggested that this was rather a dangerous game, the stewards abandoned it for a race in the park, which was a most exciting scene.

The games being nearly over, a large party had luncheon in the

Castle, which was tastefully decked with evergreens, monograms of the Queen and Prince Albert being interwoven with festoons of heather-bell, the thistle, and the rose. Here, also, a ball was held at night, where the peer and the peasant mingled in joyous harmony; and thus concluded the Gathering of the Clans in the "country of Marr" for the year 1851.

Braemar Castle, the scene of these festivities, has a high bare-walled tower, with a venerable Flemish expression about it, though not dating back so far as "the 15." Immediately beyond is the Castle town of Braemar; and in the close vicinity are the remains, little beyond the foundation, of the old castle, where the Earl of Marr raised his standard of rebellion in 1715.

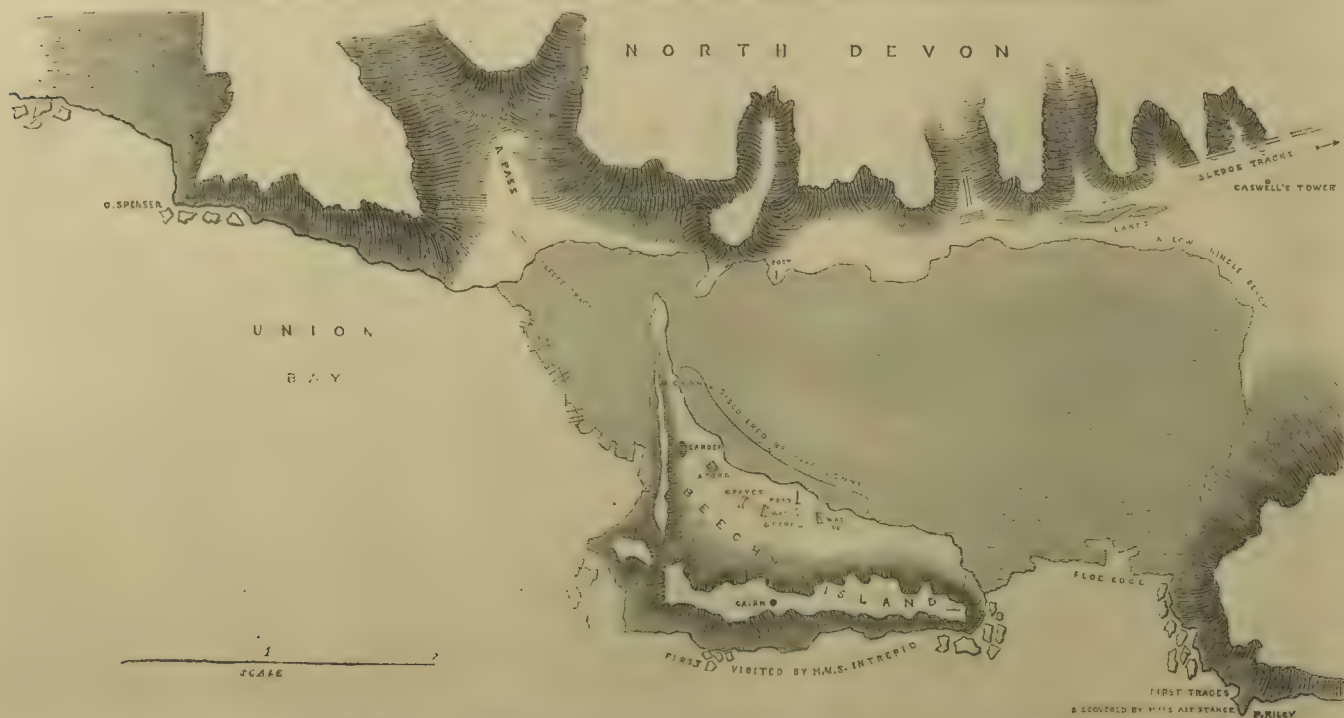


THE BALL IN THE CASTLE.—THE CLANS' REEL.

that may now become strengthened with reference thereto, I have at the last moment the satisfaction of stating that we are proceeding under favourable circumstances."



OUTLINE OF THE DISCOVERIES MADE BY THE RESPECTIVE SEARCHING PARTIES FROM THE ARCTIC EXPEDITION UNDER THE COMMAND OF CAPTAIN PENNY.



TRACK CHART, SHOWING THE EXPLORATIONS AND DISCOVERIES MADE BY THE SEARCHING PARTIES FROM CAPTAIN AUSTIN'S SQUADRON.



"PORTRAIT OF SIR FRANCIS DRAKE." PAINTED BY S. LANE.—PRESENTED BY SIR T. T. ELLIOTT FULLER DRAKE TO THE UNITED SERVICE CLUB.—(SEE NEXT PAGE.)



THE DONCASTER RACE PLATE, 1851.

THE Doncaster Cup of this year is from the establishment of Messrs. Hunt and Roskell, New Bond-street, is a fine work of art. On the cover is a group representing the sport of hawking, and around the body, in high relief, are two hunting subjects—the Boar Hunt, from the famous picture by Rubens and Snyders, in the collection of the Earl of Derby, who is one of the stewards of the race, and the Stag Hunt, from another picture in the same collection. The handles, which imitate oak branches, are made to spring from the landscapes of these alti-relievi, and the stem of the cup is decorated with implements of the chase. Around the foot are three racing groups in the



"RAISING THE MAYPOLE." PAINTED BY F. GOODALL.—(SEE NEXT PAGE.)

CHROMONE.—The introduction of novelties at so late a period of the season, incident to a musical field, and providing any diversion in the interval throughout the year has been felt in these delightful grand Madame Paganini Violante is the admiration of all, for her fairy-like motions on the rope, both ascending and descending. A very gratifying success attended on Wednesday, when the pupils of the Chromone Vocal School, under the direction of their kind and able superintendent, Isaac Hart Kuhn, were liberally entertained by Mr. Susapson—the whole of the performance being thrown open to them. Balloon ascents and naval feats closed the week.

A grand concert will be given at the Lyceum Hall, for the benefit of the many needy, when Mrs. Benedict, Mrs. Wood, and Miss Grant, Miss Stengel, Mr. Horf, Francis, and Mr. Whitworth will be the vocalists, conducted by Herr Wilhelm Kuhn and Herr Carl Schmidt.

EXHIBITION SUPPLEMENT TO THE ILLUSTRATED LONDON NEWS

No. 518.—VOL. XIX.]

SATURDAY, SEPTEMBER 20, 1851.

Two NUMBERS, 1s
WITH WHOLE-SHEET SUPPLEMENT, GRATIS.

THE GREAT EXHIBITION.

THE HIGHLANDS IN THE EXHIBITION.

It was hardly, perhaps, to be expected that the rude and scattered population, sprinkled over the wild hills and pathless moors, by the rocky rivers and desolate lochs of the north, would have done much to help in the furnishing forth of the Crystal Palace. With the exception of the home manufacture of a few coarse articles of attire, the industry of the Celt is confined to the rude and insufficient tillage bestowed upon his "croft" of stunted oats or barley; or, if he be located near the sea, to a clumsy and inefficient system of fishery, carried on without proper boats or tackle, and seldom or ever succeeding in rearing really bold or skilful mariners. The Celt, indeed, seldom makes anything but at most a fresh-water sailor. He will brave the wildest wintry storms on the high hill-side, searching with his faithful "colleys" for the sheep smothering in the snow-drift; but the sea always daunts him. If anything can induce him to change his landward habits

for a time, and fairly to take to the brine, it is the herring; and those wondrous shoals of dainty fishes luckily come upon the coast during the summer and early autumnal season, when the weather is settled and the harvest moon round and bright. Destitute, then, in a great measure, of that pushing energy and hard and keen spirit of industry and enterprise which have made England and the south of Scotland what they are, the poor Highlanders of the north and west have very seldom any leaders or teachers who might pioneer the way to a better and a busier state of things. Capitalists pass them over; and their own lairds and native dignitaries are made of very much the same stuff as themselves. Good, hospitable, easy-going gentlemen, tolerably well skilled in black cattle and Cheviot waddies; hunters and fishers, to a man; great upholders of the bag-pipe, and great connoisseurs of whiskey—they are still not the race of magistrates who are the best suited to promote the true interests of the poor people among whom they dwell. They have been accustomed for ages to think of the poverty and idleness about them as the normal and natural state of things; and the poor cottar entertains precisely the same views. He has had nobody to put other ideas into his head. A little oatmeal, a herring in the season, a few potatoes, perhaps a little dairy produce, particularly goat's or ewe milk, and he is abundantly satisfied. His hut is chimneyless, sometimes windowless—a mere hovel of piled up turf, with a smouldering peat fire in the centre, over which hangs the one pot which performs all culinary operations, and round which are tolerably sure to be stretched a ring of shaggy colleys; but leave him this—leave him his native atmosphere of peat smoke, and he is ready cheerfully to rough out any of its incidental hardships as the merest matter of course. In these respects the Scotch Celt is very much like his Irish brother. Both of them appear lazy; rather, however, because they have been brought up in idleness, than because they have any natural horror of work. Connemara and the Isle of Mull both get capitally ahead when the muscles and sinews they send forth are used in conjunction with those of England and Lowland Scotland. Donald and Fat trot cheerfully in the team, and pull with the rest of their companions; but leave them together with a couple of spades and a couple of wheelbarrows, and short and scanty will be the day's work achieved. A main point of difference between the two races, or rather the two branches of the same race, is the sober and serious-mindedness of the Scot, and his inviolable respect for the sacredness of human life. No one ever heard of a Highland evincing laudlord or his agent being

shot from behind a hedge. The Irishman always cries out when he is hurt, and in a score of ways lets the world know his grievances; sometimes, indeed, he proclaims them through musket-barrels. Not so the Scotch Highlander. In no part of the West of Scotland have the people suffered more than in some of the poorer islands of the Hebrides. There have been comparatively as many evictions—as many "fires quenched upon the hearth"—in the wild islands and portions of the mainland of the west, as in Cork, or Roscommon, or Tipperary; but not one-tenth so much noise has been made about them. There has been no tumult, no indication of popular rising, no agrarian outrages, no private and cowardly assassinations. The people have died or gone away to America, and made no sign. Highland grievances are scarcely ever heard of, but they are not one whit behind the woes and the wrongs of Ireland in number or intensity.

Life in the Highlands, then, so far as national industry is concerned, is little better than passive vegetation. The yearly irruption of English

tourists and sportsmen into the country furnishes, no doubt, a certain amount of employment, and distributes an important sum of money. The energies of no inconsiderable portion of the population are called into action as guides, boatmen, game-keepers, and the whole tribe of rural supernumeraries, who hang on the skirts of a pleasure and sporting-seeking community who come abroad to spend money and amuse themselves. But the facilities thus afforded for labour are hardly to be said to amount to a national industry. The working season extends over only three or four months, with, generally speaking, no naturally exaggerated prices paid for the services performed. Hoids; work, indeed, as it is rare and uncertain, ordinarily realises exceptional prices—a fact of which the population of watering-places and bathing-places, for example, are amply aware. In the Highlands, then, the people are destitute of the faculty which carves out profitable employment for itself. They are energetic to the utmost as sportsmen, lazy to a degree as labourers; just, in fact, because sporting in some shape or other is

the labour to which they have been taught to consider themselves devoted. Above the class of the peasantry there is as little enterprise or desire for change as lower down; the only social revolution favoured by the lairds being the removal, either to the south or across the Atlantic, of as many poor and half-starved "crofters" as possible, in order that their vacant patches of land may be flung together into huge expanses of grazing-ground for Lowland sheep farmers. Under these circumstances, we repeat, we had hardly expected to see the Highlands represented in the Crystal Palace at all; and we probably should not have been so agreeably disappointed as we have been, were it not for the manful and single-handed exertions of one singularly enterprising, active, and indefatigable tradesman of Inverness. The name of this individual, Mr. Macdougall, has now attained something like a European reputation as a dealer in all textile and other productions manufactured in, or characteristic of, the Highlands. From Inverness, the capital of the Highlands, and the centre, judicial and commercial, of a large district of interesting country, it was to be expected that a comparatively large and characteristic collection—illustrative, not, indeed, of a commercial industry, but of those domestic pursuits and household works which every people, however rude, must in some degree practise—would be sent. Nothing of the kind, however. The enlightened Invernessians declined to form any local committee, or to take the slightest trouble about the matter; and Mr. Macdougall, after in vain trying to inspire his townsmen with a spark of his own spirit and energy, was actually obliged to put himself in communication with a committee formed in the smart and rising little town of Elgin, in order to have the means of forwarding to the Crystal Palace a collection of Highland manufactured stuffs, in the original production of which he himself had no mean share. In the gallery above China there stands the stall which alone represents the industrial condition of the Scottish Highlands. We have already noticed it in a general approving paragraph, and we propose now to select a few of the objects exhibited, and to string them together by a slight thread of personal Highland reminiscences and remarks.

The various tartans of the clans naturally form a conspicuous object among the textile stuffs exhibited. The several checks are stated to be arranged upon the very highest authority; for, be it noted by the English reader, there are formidable differences of opinion among the authorities that be relative to the exact and orthodox set or plan and colour of the checks of more than one tartan. You shall have a couple of fiery Highland antiquaries disputing the shade of a red, or the proper



GROUP OF MALTESE VASES.

The Maltese stone is of a rich cream white colour, and, being soft, is easily carved. It is, however, not susceptible of polish, and will soon yield to the influence of moisture. It is, therefore, not available for external decoration; but for hall ornaments, such as vases, jugs, pedestals, &c., it is extremely well adapted. The carvers of Valetta have long been celebrated for their works in this line, and in the present

Exhibition make a very handsome show. The forms are in various styles, chiefly after the antique, and the ornaments comprise satyr's heads, vine leaves, flowers, &c., all admirably executed. The objects which we engrave are severally by F. Testa, S. Testa, and De Cesare, evincing elegance and variety of design, and softness and delicacy of finish.

The Highland ornaments displayed are few, but in correct taste, and of the orthodox old fashion. The principle of the ancient brooch, used either as an ornament or for fastening the drapery of the plaid, is a very simple one. A number of silver spoops springing more or less up from a circular rim, support a cairn gorm pebble in the centre. Sometimes a set of small pins rise from the circumference of the ornament, each topped by a small cairn gorm, arranged like moons round the centre stone. The most valuable of these ornaments are, of course, all made of silver, the stone of Scotland; specimens are not uncommon of as bright a sparkle and as pure a crystalline splendour as are to be found in emeralds. The search amongst the wildest Grampian hills for these beautiful rock crystals, has lately, we learn, been prosecuted with uncommon enterprise and perseverance, and a deposit of splintered and disintegrated rock has been discovered, in which abundant pebbles have been found, formed in the most perfect and uniform manner, and of a size varying from half an inch to six or eight in length. Some of these lumps have weighed as much as 10 lb., and they have been discovered of several colours. Mr. Macdonald has furnished his stall with some remarkable specimens, of a dark port wine hue, fully six inches in length, and we should think double as many in circumference. The pyramidal tops have been wrought, and exhibit a lustrous polish. These stones, we believe, are particularly abundant in the Grampian range, and were certainly the cause of last year's proceeding from various parts of the Highlands in a regular caravan to the remote district in which the mineral wealth lies thickest, pitched their tents or erected bothies on the heath, and after a search extending over several weeks returned to their homes loaded with the rough crystals of the hills. The remaining accoutrements of the Highland dress are shown in specimens of the dirk, to be worn by the side; the *Blaid*, or kilt, and the *Sporrans*, or carryalls, which are worn by the naked baid resting against the leg, and which was used by the Highland sportsmen to cut the throat of the wounded deer, and afterwards, in all probability, to carve and help the smoking haunch; the powder-horns, generally set jauntily off with cairn gorm and silver mountings, and hung by a silver chain, although we suspect that in most of these little matters, a striking spirit of small dandyism has encroached upon the simplicity and utility of the old Highland costume. The *Sporrans* were seldom, however, left out of the list of the mountaineer's equipments.

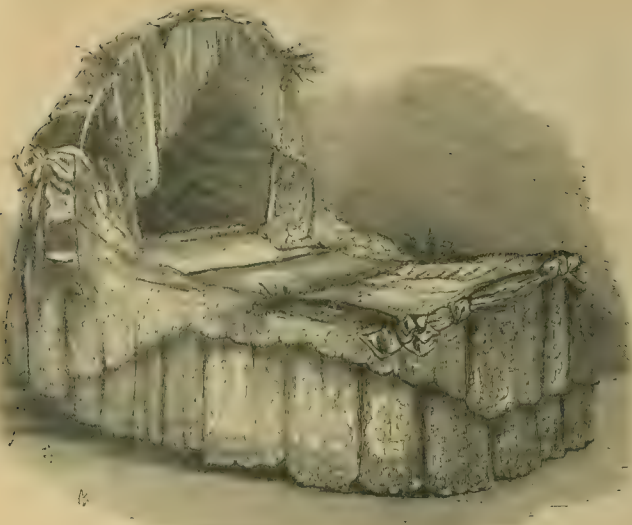
We perceive that the present fashion of disposing of the mountains deer for a day's struggle among the hills, if to place it in a miniature barrel

Since the foregoing was written, the following memorandum has been published. It is a good step in the right direction:—"An order has lately been issued by the military authorities, that the 42d, 78th, 79th, 92d, and 93d Highland regiments, which wear the kilt, are in future to wear the Glengarry bonnet instead of the forage cap hitherto worn; but the 71st, 72d, and 74th Highland regiments, which wear the trew, or trowsers, are to continue to use the old pattern forage cap."



The inventor of the life machine, Mr. Israel Abraham Stiebel, a native of Warsaw, was early in life apprenticed to a watchmaker. In applying himself to his trade as an avocation that should gain him his livelihood, he at the same time contracted a predilection for mechanics. His genius was not content with the study of the mechanism of watches, but he went on from the building of the movement to a watch. He took to peering into the works written on machines, both in German and in Polish. With this study he combined mathematics, and at the two studies—in which, by perseverance and assiduity, he attained a proficiency—began the desire of constructing a life machine. He was not content with the study of the life machine, but he went on from the study of the life machine to the study of the life machine. Various attempts have been made within the last two or three centuries to invent a calculating machine, which

For this support and appreciation Mr. Staffl did not look in vain. The Prince Paskewitch-Brivinsky, Lora-Lieutenant of the kingdom of Poland, having been made acquainted with this important invention, sent for the inventor to produce his machine at the viceregal court, and having by ocular demonstration convinced himself of the importance of



BASSINETTE.—BY MESSRS. CAPPER AND SON.

to obtain covered with more economical materials, and are so contrived, that, without removing these less fragile hangings, the bassinette is transformed, in one minute, from an open, airy cradle, to a compact

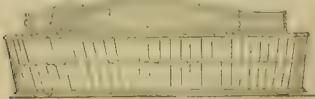


DIAGRAM OF BASSINETTE.

package of no more than one foot in thickness, and suitable for conveniently placing in a carriage. It has been not inaptly termed the "Bassinette de Visite."

CHANDELIER. BY CORNELIUS AND CO., PHILADELPHIA.

Although the exhibitors in the United States department chiefly distinguish themselves for works of severe utility, and in these with very remarkable success, there are not wanting amongst them some who have devoted their talents to more decorative productions; and of these Messrs. Cornelius and Co., of Philadelphia, are entitled to the first rank. Their chandeliers, candelabra, lamps, &c., exhibit great variety and beauty of design, excellent quality as to the materials (brass lacquered), and admirable workmanship.

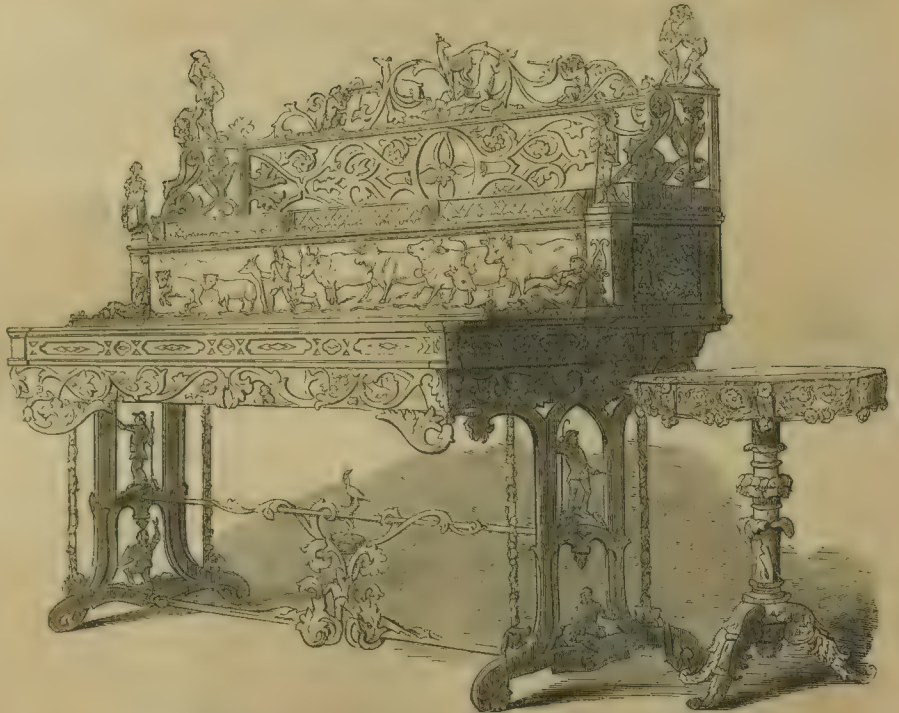
The chandelier which we engrave measures 15 feet in height, by 6½ in width. It contains fifteen lights. The branches are composed of a



CHANDELIER.—BY CORNELIUS AND CO., OF NEW YORK.



LADY'S DRESSING-CASE.—BY W. LICHARS.—(SEE PRECEDING PAGE.)



CARVED ESCRITOIRE AND TABLE.—FROM SWITZERLAND.—(SEE PRECEDING PAGE.)

succession of scrolls, from which hang bunches of fruit: the canopy is composed of flowers, intertwining in variegated forms the convolvulus and lily; and the body, though also richly ornamented, displays great lightness, a point which the designer has aimed at in all his works, and with great success.

The lard lamps exhibited by the same firm display remark-

able richness of colour, and commendable beauty of form. They are so constructed as to convey a large quantity of oxygen to the combustion point, to the great improvement in the colour and brightness of the light produced. They are said to be in general use in the United States. We understand that these exhibitors constantly employ nearly 700 operatives in the various branches of their business.



INVALID CHAIR.—BY KISSELL, OF BORDEAUX.—(SEE PRECEDING PAGE.)



GROUP OF CHINA.—BY MESSRS. ALCOCKS.

INKSTAND. BY SLATER.
This is an inkstand in dark wood, carved with various fanciful devices—an owl's head, snake, sea monster, &c., the general effect of which is striking and handsome.

SILVER CLARET JUG. BY DODD.
A very elegant specimen of silver work, engraved and chased.



SILVER CLARET JUG.—BY MESSRS. DODD.



THE "IRIS." BY HUXLEY AND CO.



INKSTAND.—BY SLATER.

THE IRIS, BY MESSRS. HUXLEY AND CO.

Is an adaptation of the plan adopted in many offices of suspending against the front of the desk any paper requiring to be hastily copied in duplicate. In this form we have an instrument by means of which invalids confined to a reclining posture, the student of geography or languages, the literary man (which includes all engaged in business), and the artist, may enjoy the power of reading in an easy position, and, if desirable, of glancing from one document to another, without moving the head.

devices, &c., it is attempted in every case to adopt emblems or hieroglyphics descriptive of the subjects of the contents, or at least involving a pun upon the name of the author. Miss Bennett's "Hints on Colour" is decorated with a painter's palette, with colours. The Royal Cambridge Bible, of which the late King pulled the first proof before the heads of the University, is bound in morocco, and tooled with national emblems, the clasps being formed of anchors and cables, in honour of the "Sailor King." Vernet's "Life of Napoleon"



GROUP OF BOOKS. BY LEIGHTON.

The ornamental china exhibited by Messrs. Alcock and Co., of Burslem, comprises many very beautiful and original specimens after designs by Alfred Crowquill, S. W. Arnold, and San Giovanni. They consist of jugs and vases, of various forms, and other table ware, besides all sorts of fancy articles, as pen-holders, ring-holders, ash-trays, centre-pieces for flowers, and fancy statuettes. The vase with flower ornaments, in the centre of our Engraving, is of very exquisite workmanship; remarkable for delicate accuracy of outline and richness of colour.

GROUP OF BOOKS. BY LEIGHTON.

Messrs. Leighton's fancy bindings have already been frequently alluded to, and have attracted much attention from those who are curious in the choice of materials.

RED CORAL AND BRACELET.—BY PARAVAGNA AND CASELLA.—(SEE NEXT PAGE.)



GROUP OF BOOKS.—BY LEIGHTON.



We now proceed to bring notice of foreign lines; and it must be remembered that Flanders was the original seat of this trade in western Europe, and that the manufacture was brought to this country from the Flemish seats of manufacture and from Holland, the favourable climate of Ireland having been soon discovered as likely to produce the same results. The earliest times at which the earliest times was not once the grower, preparer, spinner, and weaver of the raw material raised by himself. The revocation of the Edict of Nantes was, as in the case of the silk trade, one of the great causes of the introduction of this trade into Great Britain. The French, Ireland, and in the latter country, the Earl of Rathfarnham, prior to that event, brought some workmen from France and Flanders, and erected

looms for the purpose of working up the raw materials raised from the superior seed he had previously imported.

The state of the manufacture in the countries whence we derived our trade in henna does not appear to be in so flourishing a condition as might have been expected, under the pressure of the great movement now going on in favour of manufactures; since, possessing all the facilities for raising the raw material and all the traditional knowledge of its preparation, it might have been expected that more would have been done.

BELGIUM.

The damasks exhibited by M. P. Verriest, of Courtrai (314, Belgium), are of a coarse but effective character, and are such as would be useful for every-day use. M. C. Dujardin, also of Courtrai (317, Belgium), exhibits many kinds of very fine damasks, one of which is a specimen of that kind of weaving known as the "Belle de nuit," which we have pronounced so strongly, since it represents, or is intended to represent, the King of the Belgians on horseback. M. T. Donner, of Alost (233, Belgium), exhibits specimens of excellent character in weaving and respectable design, the portions of ornament being good; but, as usual, the weaving of the human figure comes in to mar the excellence. This exhibitor shows some handsome handkerchiefs of "good quality." M. B. Houwens-Hass, of Vilvoorde, contributes examples of a similar character, to which the same remarks may be applied. The bleached examples are admirable.

There are one or two other exhibitors from Belgium who exhibit coarse and servicable damasks and diapers of good character, the design being generally very fair.

AUSTRIA.

The Count Harrach, of Junowitz, Moravia, and Starckenback, Bohemia (235, Austria), exhibits very excellent examples of linen furniture, the designs of which are generally highly appropriate, being woven in a variety of colours, but all of such a character as to suit the material. The adaptations to hangings and window-curtains are well managed, and our manufacturers may take a hint therefrom, which with taste and skill may become useful to them. The bleached examples of cloths and napkins are excellent, and the taste in design far above the average of these kind of goods. The printed examples, too, are novel and well executed.

The Benevolent Society of Milan (Via Casa d'Industria—233, Austria), exhibits bold and effectively designed coarse damasks, and there are some excellent linen gingham exhibited by John Lang of Vienna (185, Austria).

From Ullersdorf, near Schönbühel, Moravia (96, Austria), there are presented some specimens of dyed flax, whilst Rastia largely exhibits the raw material, as well as hemp, and specimens of cloth of a coarse but varied quality manufactured therefrom.

ZOLLVEREIN.

The states of the Zollverein display some admirable specimens of flax manufacture in various forms, the colours appearing being of a novel and excellent character. M. Kaufman Schweidnitz (235), exhibits a coloured damask for hangings exceedingly well designed, chiefly in stripes. Christian Dirig, Langenbielau, Silesia (92), also exhibits Jacquard woven damasks in stripes, the patterns and colours of which are well selected; indeed, some of the designs are peculiarly elegant and appropriate and in great variety.

A. H. C. Westermann and Sons, Düsseldorf (543), exhibit a good assortment of bleached damasks, and diapers of good character, the designs being occasionally very elaborate and elegant. The display of the larger examples shown by this house is a very effective one. The designs are generally broad, bold, and artistic, and when not tempted to get into the routine course in the introduction of animals, the whole are in excellent taste. The Byzantine design is admirable, and the heraldic portions of one or two remarkably clear and effective. Erben Anton Eichholtz, of Warendorf, Westphalia, shows small cloths, all of which are excellent specimens of weaving; the borders are admirably drawn and designed, and are perfect models for our designers of damasks. The centres of these cloths, however, are architectural representations of Cologne cathedral, and Scott's monument at Edinburgh. They are drawn and woven with wonderful precision, but had no business to be executed in such a fabric.

On the whole, the display of linen damasks is an interesting, though by no means an attractive one; and the probabilities are, that thousands have visited the Exhibition who have never thought it worth while to look at any of the examples, yet in no department has there been more skill and talent displayed than in these unostentatious products of the loom.

CAPTAIN ERICSSON'S PHILOSOPHICAL AND INSTRUMENTS.

The name of Ericsson is well known in the mechanical world. In connexion with Mr. Braithwaite, he competed for the prize offered by the directors of the Liverpool and Manchester Railway, for "the best locomotive engine which should draw on a level plane three times its own weight at ten miles per hour." An account of this engine is given at page 196, No. 509, of the ILLUSTRATED LONDON NEWS.

Captain Ericsson has for many years resided in the United States of America, and has continued to engage himself in mechanical pursuits, and to produce many ingenious and useful inventions; among these we may especially notice the distance instrument; the hydrostatic gauge; the reciprocating fluid meter; the alarm barometer, and the pyrometer; all of which are exhibited in the United States division of the Great International Industrial Exhibition.

The distance instrument is intended especially for the use of naval men in ascertaining distances at sea, and consists of a reflector similar to that used in quadrants, which is firmly attached to a spindle, an object glass, and a sight, by which the necessary angles are measured. The spindle is turned by a lever, at the lower end of which is a slot, in which a sliding nut moves freely up and down. In the sliding nut is fixed a thumb-screw, furnished with a pinion which works into cogs formed in the circumference of a graduated index plate, which plate is attached to a socket sliding on the main stem of the instrument. The index-plate is graduated into feet or yards, and the scale is found by taking the supposed height of a given mast as the base line, the tangent to the earth's curvature being determined accordingly; then, by dividing the curve between the 'bottom' of the mast or vertical base line and the horizon into equal spaces—say of 19 yards each—commencing at a given distance from the vertical line, and calculating the sines of the various angles which are afterwards engraved on the index plate—the instrument is ready for use. When about to use the instrument, the object glass has to be adjusted so as to bring the real and reflected horizons in a line, and the point on the scale of the index-plate placed directly under the fixed index shows the required distance. For different-sized vessels, index-plates, with graduations to suit the various heights of their respective masts, will be required. An instrument similar to the one at the Great Exhibition has been practically tried by a distinguished naval officer of the United States, who, from an eminence on shore, was able to take the point of observation being in the first instance accurately ascertained.

The hydrostatic gauge is for measuring the volume of fluids under pressure, and consists of a thin copper sphere, of about 7 inches diameter, the interior being gilt. In the top of the sphere is a conical steel plug, formed with a cavity, and ground accurately to fit into a proper collar attached to the sphere; a vessel is suspended inside the sphere, immediately under the steel plug, and in the bottom of the plug's small aperture formed in the side of a hollow projection. The vessel is, as practised by the exhibitor, was as follows:—The sphere being filled with distilled water, carefully freed from air by protracted gradual boiling over the flame of a spirit lamp; the steel plug, with the suspended vessel, was then inserted, and the whole allowed to cool. The deficiency of water within, owing to the contraction in the process of cooling, was made up by an addition of distilled water. When the temperature was reduced to 60°, the sphere was placed in a strong iron receiver, filled with water of the same temperature as that within the sphere, the receiver being connected with an hydraulic press. Mercury having been poured into the cavity of the steel plug, the receiver was closed up by a strong cover, and the hydrostatic pressure applied, due notice being taken of the force exerted. The cover of the receiver being removed, and the small aperture in the steel plug closed, the latter was taken out, and the mercury in the vessel suspended within the sphere, on being weighed, furnished the exact amount of compression of the water in the sphere. The contents of the sphere having been previously ascertained, the ratio of compression was established with extreme accuracy. Such a

delicate instrument is peculiarly adapted for determining with the greatest accuracy the rate of compression peculiar to fluids.

The reciprocating fluid meter.—This instrument, which is for a similar purpose to that of Tebb's water meter, described in No. 509 of the ILLUSTRATED LONDON NEWS, has been fully tested by the directors of the Croton aqueduct, New York, who have applied it as a check on the quantity of water used by the large manufacturers and others supplied from that celebrated conduit. The meter is placed in the water itself, thus tight joints, packings, &c., are avoided. The measurement of the water is effected by two double-acting plungers connected to cranks working at right angles. The motion of the plungers is checked before the cranks reach the full up and down stroke, by means of stops acting directly on the plungers. In the piston-rods are oval slots, made so much wider than the diameter of the crank-pins, as to allow the latter to move through an arc of 20 degrees whilst the piston remains stationary. It is worthy of notice, that, as the pressure within the medium is increased, and injurious wear of the moving parts are avoided. The meters are made of different sizes, those in use at the Croton Works having plungers of the respective diameters of 5, 9, and 21 inches. By the meter having 21-inch plungers, a quantity of water equal to 70,000 cubic feet is measured in twenty-four hours. A register of the usual construction is applied to the meter, which is set once a year, and the quantity of water which has passed through the metre is at any time ascertained by inspection. The accuracy with which the quantity of water is ascertained by its displacement by means of plunger of fixed size working between definite stops, cannot be questioned.

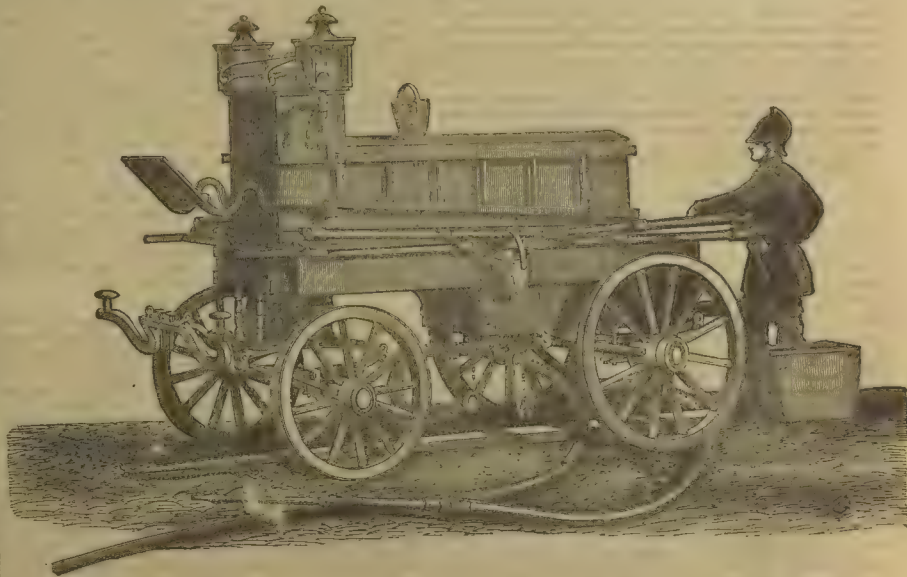
The principle of the alarm barometer is, that, so soon as the mercury sinks below any given altitude, the falling of the mercury causes a gong to be sounded. Thus, at sea, without being required continually to watch the decreased movements of the mercury of the barometer, the seaman is warned of the approaching storm, and is thus enabled to make preparations, by taking in the sails and observing other precautions. This instrument consists of a glass tube of the ordinary description, but which is considerably increased in diameter at its upper end; the lower end is dipped into a semi-globular cup containing mercury; the object of the enlargement of the glass at the top is to cause a large quantity of mercury to be discharged into the cup with a slight fall of the column. The gong is sounded by means of a hammer impelled by a spring, the mercury in its fall descending into the cup and disturbing the equilibrium of a lever, which disengages a catch connected with the hammer. The cup is equipped by a weight adjustable on the lever, which is graduated for the sake of easy adjustment.

Captain Ericsson was led to the invention of his pyrometer by discovering that the Wedgwood scale was not to be relied on in a series of experiments in which he was engaged, and which required an accurate knowledge of the expansion of permanent gases under high degrees of temperature. The exhibitor has fixed 32° as the freezing, and 212° as the boiling points of water respectively; so that this standard should bear a direct relation to the scale of Fahrenheit. To the practical man, requiring at times the application of great heat in some of his processes, this instrument will prove a valuable adjunct. Towards the bottom of the instrument is a chamber containing mercury; the bottom of this chamber is composed either of spring steel or India-rubber held between steel plates, and is furnished with a set screw for moving the flexible bottom up and down. A glass tube, 38 inches in length, passes through the top of the mercurial chamber, and reaches to within one tenth of an inch of the bottom, being sealed at the top, and charged with mercury in the ordinary way. A short tube is inserted vertically in the top of the mercurial chamber communicating therewith, by which, by means of a passage of small section, a communication is made with a platinum bulb; into the passage, which is furnished with a stop-

cock, is placed a silver wire not quite occupying the entire section. In order that the air may be exhausted from the mercurial chamber and the platinum bulb, either separately or at the same time, an air-pump is attached, the position of the stop-cock regulating the action thereof. Around the sides and top of the mercurial chamber is a piston for pounded ice. By means of a screen formed of double plates of iron, the instrument is shielded and supported, the screen standing on a base-plate; between the plates, as described, the space is filled with clay or other non-conducting substance. The height of the mercurial column in the glass tube is shown by graduated scales in the usual way—thus indicating the tension and temperature of the medium in the platinum bulb; all temperatures up to the melting point of iron are indicated. The instrument is made to stand in an upright position by means of a spirit level. For the mode of using this instrument, we may suppose that the melting point of silver is to be ascertained; we have first to detach the platinum bulb by means of a coupling joint, and bring it to a red heat over the flame of a spirit lamp, with a view to get rid of moisture. In the next place, we must exhaust the air from the bulb, and re-charge it with azote or dried atmospheric air, and again attach it by the coupling joint. In the third place, a cup filled with pounded ice is to be placed under the bulb. Fourthly, the flexible bottom of the mercury chamber must be drawn down nearly to the extreme limit by means of the set screw, and then the air-pump applied, which by means of the necessary exhaustion will lower the barometer column in the glass tube, and cause mercury to enter the chamber, partially filling the space left at the top by the bottom being lowered, the chamber having, in the first instance, been fully charged. As soon as the high column shall have reached a fixed point on the vertical scale of the instrument, the bottom of the mercurial chamber is to be screwed up until the mercury in the shorter tube stands opposite zero. As by elevating the bottom of the chamber a slight rise of the high column will take place, a further exhaustion will be required to bring it down to the fixed point, the short column being kept at zero. In the next place, in order to shut off the communication with the pump, the stop-cock should be half turned, the ice should be removed from under the bulb, and its place supplied with boiling water. The effect of increased temperature will cause increased tension in the bulb, and the high column will be raised, while the short column will be lowered. By again raising the bottom of the mercurial chamber, the short column will mark zero, and the high column will be brought to rest at some point on the scale. Now, by substituting a scale of molten silver for the hot water, and nearly immersing the bulb in it, the high mercurial column will rise rapidly, while the short one will sink as before. The set-screw being applied as directed, and the short column retained at zero, the high column will again come to a state of rest. The ladle being now removed, the operation is completed. By comparing the elevation caused by the boiling water with that of the molten silver, it will be easy to determine the degree expressing the melting point of silver above that of freezing, according to Fahrenheit's scale.

FIRE-ENGINE. BY M. MERRYWEATHER.

In this engraving we have a representation of a carriage fire-engine, to be drawn by two or four horses, of the pattern employed by the London Fire Brigade (Simpkin's patent); fully equipped with 7-inch gun-metal cylinders, and spherical copper water-vessel; gun-metal pistons and valves in separate valve-chambers; handles for thirty men, which fold up fore and aft; improved wrought iron fire-carriage, patent axles and springs; double delivery screws, for attaching two lines of hose when required.



MERRYWEATHER'S FIRE-ENGINE.

THE GREAT GATHERING OF THE INDUSTRIOUS BEES, 1851.

How beautifully is the great Palace of Industry represented by Milton's "Mansion of Industry," placed in the North Transept Gallery, where more than two hundred thousand little labourers are diligently engaged in their various daily duties, while their reigning sovereign reposes quietly in her regal apartment, attended to by her subjects with the utmost regard to her comfort and convenience. It is not to be wondered, at that there should be so many contributors of bees, beshives, and honey to the World's Industrial Exposition, when we remember how this highly interesting and important subject has attracted the attention of some of the best and wisest men of all ages, and how Virgil and other poets, in language so musical, should have related all the acts and doings of the bees—

Creatures that by a ruling nature teach
The art of order to a peopled kingdom.
The writings of Varro, Pliny, and Columella may be consulted with advantage on this subject. Indeed, Columella, who lived in the reign of Claudius Cæsar, wrote a complete treatise on the management of bees; and Varro, in his "De Re Rustica," gives the following account of the profit to be derived from bee-keeping—"Of the fruit or profit I have not only a witness, who says he lets out his bees for five thousand pounds of honey by the year, but also our friend Varro, who had a small country-house and a little field of about one acre near to the house; they formed an apiary, and also a garden, which was planted with thyme, cythrus, and balia. Taking one year with another, their profit from bee-keeping never amounted to less than 10,000 s. sterling."

The great architect of St. Paul's—Sir Christopher Wren—erected some portion of his time to apiary pursuits, and left behind him a representation of his model hive, some features of which may be discovered in several of the contributions of the apianan deposits in the Crystal Palace. Wren's hive, of 1651, consisted of three boxes of octagonal shape, placed one above another, each having a hole in the top of similar shape and size, as well as there was a cover turning on a pin, and by means of a piece of wire attached to the cover, the hole was easily closed up when required. Each storey was furnished with a sliding door, to be opened or closed at

pleasure. In order that each box might fit closely to that in contiguity, the upper edge of each was shaped convexly. A window of glass, with outside shutter, was fixed to each box opposite to the doorway: the shutters were fastened with locks for security in the absence of the bee-keeper, the windows enabling him, when required, to take a view of the interior; a lining of rush mat within completed the arrangement. From all we have been able to discover on the subject, Sir Christopher Wren's hive was the first in which doors and windows and other architectural arrangements were provided, as before his time the only hives known were those made either of reeds or straw. Sir Charles Whitworth, who took considerable interest in the proceedings of the Society of Arts, presented to that useful body an improved hive, the invention of the Rev. John Thorley, of Oxford, which, until within the last few years, was to be seen in the Society's model room. Mr. Thorley appears to have taken Sir Christopher Wren's hive as his model, for he adopted the octagonal shape, and in the top provided an aperture, with a slide, to admit the bees to an upper box or storey; but, instead of this being of wood, Mr. Thorley substituted a straw hive, also having an opening in its roof, and a dove hole; instead of a third storey of glass, which was covered over with a straw case, to be lifted off at pleasure. The great feature in Mr. Thorley's arrangement is the glass at the top, which, when filled with honey, is easily removed by a piece between the honey below a thin plate of tin, or, in these days, zinc, in order to shut off the bees from below; then, by carrying it to some little distance from the apiary, the bees within it will return to their home, and commence fresh labours in another glass substituted for that taken away, while the bee-master or his assistant removes the honied treasure from within the glass. Now, although it is more than three-quarters of a century since the appearance of Mr. Thorley's hive, we find the glass contrived in almost all the beehives, boxes, houses, mansions, or castles, which are scattered about in various parts of the Kingdom. From the great want of classification of subjects in the Building, and the very unfortunate arrangement of the Official Catalogue, we had much difficulty in finding the various contributions connected with this winning subject. The exact practice of destroying the bees attracted the attention of Thompson, who, in his "Autumn," thus describes the useless custom:—

Sudden the dead, expressive stores ascend;
And, under milder scenes, the tender race
By thousands tumble from their honied domes
Convulsed and agonising in the dust.

And the Society of Arts, two years after the appearance of Mr. Thorley's



FONTAINE À THÉ.—BY DURAND.

hives, endeavoured to discourage as far as possible the cruel practice of destroying bees, by offering the sum of £200 to be divided among those bee-keepers who, within the year 1767, should each collect from his own stock of bees, "ten pounds of clear merchantable wax without destroying the bees, leaving a sufficient quantity of honey for their winter sustenance; £5 being the premium to be given to each, unless there were more than 40 candidates, and then the £200 was to be divided among them equally.

At the beginning of the present century, Mr. Espinasse, a name well known in the legal world, commenced bee-keeping on a large scale; and, as he resided at Bexley, within two miles and a half of the heath of that name, and within one mile of Dartford Heath, the situation was admirably adapted for an apiary, as bees delight in the blossoms of the heath furze, and wild thyme, which afford them an abundance of pabulum.

Mr. Espinasse continued to keep bees for eighteen years, and was altogether so successful, that at the end of that period his excellent management was rewarded by the "Silver Ceres" medal of the Society of Arts. His bee-house is worthy of notice, on account of the position of the sliding doors at back, by which arrangement the hives may be examined without disturbing the little labourers when entering or leaving the hives by the doorways in front. A model of an apiary building on this plan is exhibited by Mr. Neighbour in the North Transept Gallery, to which we shall hereafter allude.

Many years ago, we remember to have visited William's apiarian establishment, in Middle-row, Holborn; he was in the habit of using the bell glasses, placed on perforated boards, similar to the plan of the Rev. Mr. Thorley; and in 1826, Mr. Milton, who exhibits the "Mansion of Industry" mentioned at the commencement of this notice, received the "Silver Ceres" medal of the Society of Arts for his straw hive with revolving top, which may also be seen in the North Transept Gallery. In May, 1844, during the secretaryship of Mr. F. Wislaviw, there was a complete exposition of bees, hives, and honey at the Society of Arts, the principal contributors to which were Mr. Milton, Mr. Neighbour, and Mr. Sholl; and the two former of these apiarians, and a son of the third-named, are, in fact, the chief exhibitors in this important branch of rural economy at the World's Great Industrial Show. In parts of the spring and summer of 1843, a hive, or rather a castle of bees, somewhat similar to those in use at the Royal Farm, Windsor, was located in the balcony of the house of the Society of Arts, and afforded a fitting example of untiring toil and industry to the younger members of that valuable institution, which was threatened with entire destruction at the latter end of 1843, but which, by exhibitions and illustrations of all the most important subjects of the day, attracted hundreds of new members, and consequently led the way to the Great Gathering of Nations in 1851.

The apiarian contributions are to be found in the North Transept Gallery, close to the crystal "wall;" in all parts of the British Agriculture Department; in the South Gallery, among "Substances used as Food;" in the United States Division, close to the eastern "wooden wall;" and behind the United States office; and in the compartments of India, the Cape of Good Hope, Canada, British Guiana, Van Diemen's Land, France, Greece, Portugal, Spain, Switzerland, Tunis, Turkey, and Egypt.

(To be continued.)



FRONTISPIECE.—BY CRUCHET.

FONTAINE À THÉ.—BY DURAND.

This is a very magnificent production—quite a work of fine art—intended as a centre-piece for the tea or breakfast table. It is made of silver, in parts oxidized, with enamelling, incrustations, &c. It consists of a standard, of elegant design, supporting a tea-urn with four spouts; and corresponding with them, upon silver plates, are four tea-pots, and an equal number of sugar-basins and cream-jugs. Around the base are places for sixteen or twenty cups. The workmanship throughout is of the most elaborate and costly description.

FRONTISPIECE. BY CRUCHET.

This mixture of joiner's work and *corton pierre* is one of the half-dozen really superb pieces of decorative furniture in the French division. Nothing but the bad taste of leaving the horns of the animals in a natural colour can be objected to it; and although, in the representation here given, the lower half may seem badly proportioned, it is only just to observe, that this seems to be a very careful preparation of the designer to obviate the effect of a stove or table placed before it.

CAST-IRON ORNAMENT. BY BAILY AND SONS.

It is understood that a first-class medal will be awarded to this work, of which the merit consists, not only in good design, but in the casting of the foliage, which appears intended to revive and imitate that beautiful class of old wrought iron of 1700, which is so much admired by travellers in Spain, the Low Countries, and Southern Germany. In looking over the many examples of ornamental iron castings, we have not observed any attempt at such very full relief (technically, undercut work), it being generally the practice to construct the design in such a manner as to allow the pattern to be readily lifted from the mould; a practice which can never give the fine effect produced in this instance, each individual leaf being in itself an elaborate casting, and both sides of the work being equally ornamental.



BEE-HIVES.—BY NEIGHBOUR AND SON.



CAST-IRON ORNAMENT.—BY BAILY AND SONS.



THE CRYSTAL PALACE.—THE MEDIEVAL COURT.—(SEE NEXT PAGE.)

(On either side of the high altar are ranged several interesting objects in brass. The first in succession is a lofty paschal candlestick for the solemnity of Easter. The base is triangular for three pedestals, on each of which is an image of an angel pointing upwards and announcing the glad tidings—"He is risen." The shaft rises in an hexagonal form, and from the alternate sides issue three cupels, and niches with canopies; under these are placed images of the three Marys, holding vessels of ointment. Continuing still higher, the stem, which is much enriched, terminates by a cap composed of three projecting niches with angels bearing scrolls, in which are inscribed the words of the Evangelists. The shaft is surmounted by a globe, and a foliate coronal surrounded with a wreath, from the centre of which rises the cauldle, the stems of which are beautifully painted with devices and inscriptions after the ancient manner. This beautiful principle of illuminating the lower portions of altar candles with colour and gilding has been carried out in the tapers for the altars as well as the paschal.

with two branches separating from a solid stem (the base), and supporting two kneeling angels, who carry a perforated tracery panel to receive the book. The second is a large eagle with outspread wings resting on an orb supported by an hexagonal pedestal of open tracery-work, from whence spring three flying buttresses resting on branched shafts, surmounted by half images of angels bearing scrolls. The bases are very massive, and rest on three lions couchant. Two large foliated branches are attached to the shafts, and carry tapers to afford light to the lecter; these branches are moveable, and may be adjusted at pleasure. This noble lecter was presented to St. George's Church, Southwark, by the Rev. D. Haigh, of Exeter.

The third lecter has been designed from an ancient example at the

Cathedral at Coutrais. The desk is perforated with a device of the holy name spread into flamboyant tracery; the shaft is terminated by an image of St. John the Evangelist.

Opposite these, and in front of the niche, is placed an iron candlestick of wrought-work, which turns on a centre and is intended to receive offerings of tapers for the Lady Chapel of St. Augustine Church. This is a most elaborate piece of iron-work; worthy of the ancient smiths, and is a striking proof that our operations, when under proper directions, are quite capable of representing the most beautiful works of mediæval skill. Near this is a credence table of wrought brass, with a marble inlaid top, and many other articles connected with church decoration, all from the workshops of Mr. J. Hardman, of Birmingham.

CAST-IRON HOUSE BY BELLHOUSE AND CO.

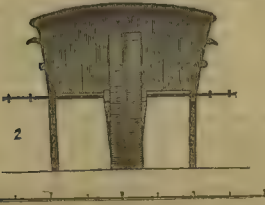
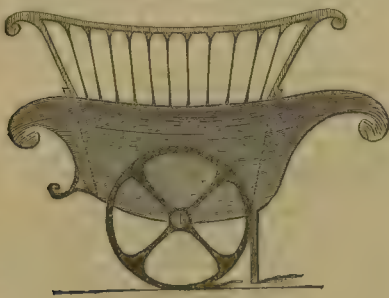
The commission with which Messrs. Bellhouse, of Manchester, have been honoured, and which they have already executed, of erecting a cast-iron ball-room attached to the Royal residence at Balmoral was the consequence of Prince Albert's inspection of the model cast-iron house, intended for the use of emigrants, exhibited by the same firm in the Crystal Palace. In Engraving a representation of this ingenious production, we could not do more than to direct attention to its evident usefulness.



BELLHOUSE'S IRON HOUSE FOR EMIGRANTS.

CENTRIPETAL BARROW. BY T. WINDUS.

In this barrow, which is also called the equilibrium barrow, the wheels are placed at the centre instead of at the sides. The effect of this mode of construction is to give it a very light draught, and to relieve the pressure upon the arms of the driver. To cross brooks and ditches on a plain, one or both wheels can be fixed on the front with four revolu-



CENTRIPETAL BARROW.

tions. Scrapers are attached to prevent clogging; and it is stated, that, instead of labouring gravel walks, &c., it rather improves them. The wire cradle, which is moveable, can be used as a feeding-rack, or to carry plants and trees from a conservatory, or other like purposes. It is the invention of Mr. T. Windus, of Stamford-hill.

ARMS AND ARMOUR.

(THIRD NOTICE.)

As the musket is the modern substitute for the bow, so we found ourselves leaving the domain of archery to enter upon the historical field of small-arms of fire. We shall now retrace our steps a little, that we may give the history of cannons, which are not only suggested to us by the highly polished great gun of Herr Krupp but also by the numerous serviceable-looking engines of destruction exhibited by our friends the Belgians; and yet a little further must we retire into the history of early times, so that we may offer a sketch of the history of gunpowder; without a slight mention of which our notice of fire-arms would be incomplete.

Whatever peace-makers may say to the contrary, we hold gunpowder to have largely contributed to the world's civilisation; probably, too, it has contributed to the world's peace. At any rate, its discovery and application must be regarded by all as an important event in the history of mankind. That the claim for the honour of discovering so remarkable a substance should be disputed, is not wonderful; accordingly, we find that many rival pretensions have been advanced. Polydore Virgil and Thevet attribute the invention to a monk named Constantine Anulzin, a chemist of some celebrity in his time. Others maintain that it was discovered by Hierolodus Schwartz, in the year 1320. There is not the least difficulty, however, in referring our knowledge of gunpowder to an earlier date than the above, our own countryman, Roger Bacon, having distinctly mentioned it in 1267. He describes its composition, specifies many of its properties, and enumerates its explosive powers as a means of destroying animals. He states that when inflamed it makes a sound like thunder, and a flash like lightning, but exceeding both in sound and brightness. He goes on to speculate on the probability of its employment by Gideon when he defeated the Midianites with three hundred men as described in the seventh chapter of Judges. We English are in the habit of saying that Bacon "invented" gunpowder, whereas a slight examination of his writings suffices to prove this notion. So far from laying claim to the discovery of gunpowder, Bacon distinctly mentions it as a substance well known in his time; he even goes on to tell us how to make a cracker.

It is quite clear, then, that the discovery of gunpowder dates further back than the time of Bacon; and M. Dumas, a gentleman who has written a book to prove that the ancients knew many things which we commonly attribute to the moderns, imagines that Bacon must have derived his knowledge from Marcus Græcous, who lived about the end of the eighth century. This author not only had a general knowledge of the properties of gunpowder, but he gives a tolerably precise description of the method of manufacturing it.

Now Bacon mentions saltpetre as having the probably explosive quality, but saltpetre alone will not even burn, much less explode; hence Bacon must have omitted to mention the other constituents of gunpowder, viz. charcoal and sulphur, on an assumption of their non-importance, for, in another part of his writings, he gives directions for the manufacture of gunpowder. Bacon, our readers should know, was an alchemist, and, like others of his class, he considered it a point of honour to make his description of processes a little cloudy; accordingly, it is not to be expected that he should give us his description of gunpowder all at once. Little by little, however, the information oozes out, as we shall see. In one passage of his work, "De secretis Operibus Artis et Nature, et de Nullitate Magie," he says, that from saltpetre and other ingredients, we are able to make a fire that shall burn at any distance we please. This is his first intimation of information. Presently comes another: "Sed tamen salis petra pura hope cum vitæ et sulphuris, et sic facies tonitruum et conflagrationem, ut scias quid sit." Here saltpetre and sulphur are stated as plainly as we have a right to expect from one who thought a little obscurity necessary for his dignity sake; but what can *luna hope cum vitæ* mean? Why it is no more nor less than a transposition of the letters *carbonum pulvere*, in which myth the crafty old alchemist thought proper to hide his treasure. If, then, Bacon did not discover gunpowder, who did? The answer to this question is not clear, the early history of gunpowder is so obscure in the mists of antiquity. Various documents could be mentioned to prove that gunpowder was known in India at periods of very great antiquity, and collateral testimony exists in favour of its being known also to the Chinese. Citizen Langles, in a memoir read before the French Institute, contends that gunpowder was conveyed to Europe by the Arabs, on the return of the Crusades, and says that the former people employed it at the siege of Mecca, in 690. The Arabs, he says, derived it from the Indians. Now, at the time when Roger Bacon lived, the Arab portion of Spain was the favoured seat of literature and art; and, as we know he travelled in Spain and was familiar with Arabic, it does not seem improbable that he derived his knowledge of gunpowder from some treatise in one of the Saracen libraries. This supposition, at any rate, is just as probable as that he read the treatise of Marcus Græcous; indeed, there exists at this day, in the Escorial, an Arabic treatise on gunpowder, written in the year 1349.

If we are to believe Philostratus, (who, by the way, had a very bad habit of telling untruths), gunpowder was not only known to the natives of India in the time of Alexander's conquests, but even the application of gunpowder to the purposes of fire-arms. Referring to the Oxynus, he says, "Those truly wise men dwell between the Hypharis and Ganges; their country Alexander never entered, deterred not by fear of the inhabitants, but, as I suppose, by religious motives, for, had he passed the Hypharis, he might doubtless have made himself master of all the country round them; but their cities he never could have taken, though he had led a thousand such as Ajax to the assault; for they come not out to the field to fight those who attack them; but these holy men, beloved by the gods, overbore their enemies with tempests and thunderbolts shot from the walls. It is said that the Egyptian Hercules and Bacchus, when they overran India, invaded this people also; and having prepared warlike engines, attempted to conquer them; they in the meantime made no show of resistance, appearing perfectly quiet and secure; but, upon the enemy's near approach, they were repulsed with storms of lightning, and thunderbolts hurled upon them from above."

It is true that Philostratus was a story-teller in more senses than one, but taken in connexion with the fact that pyrotechny has been cultivated in India and China from time immemorial, the narration just quoted is at any rate probable. India is still the place where the accidental discovery of gunpowder should have occurred. Nitre is there abundant as an effluence on the surface of the ground; and if the nitre by which it has got mixed with charcoal, gunpowder would have resulted. Sulphur improves the compound, it is true; but a tolerably good gunpowder can be made without. Those persons who advocate the opinion of the modern discovery of gunpowder, say that the historical documents in which it is mentioned without ambiguity are of but doubtful authenticity—that the narrative of Philostratus is not only ambiguous in itself, but vitiated by the bad character of the author; that mere poetical allusions are not to be received as authority in scientific matters—nor are they to be literally understood; and, lastly, they argue that if gunpowder and fire-arms had been known thus early in Asia, some of the conquering hordes who removed thence for the purpose of waging war in Europe, would have used such powerful auxiliaries in war. At any rate, Mahomet, it is alleged, should have known about gunpowder and guns, and also Genghis Khan; yet such was not the case. Gunpowder, it may be rejoined, was not discovered until the reign of Henry VIII., and amongst the Turks not two centuries ago. This is one question—the application of gunpowder to fire-arms another; that gunpowder probably was originally the result of chance, whereas a great deal of reflection and skill must have been expended on the construction of fire-arms, which, when made, probably were so rude that it is now hard to be considered the superior weapon, as indeed it is amongst the Chinese of the present day, as it was in England in the reign of Henry VIII., and amongst the Turks not two centuries ago.

This, notwithstanding our examinations, we find that the first originator of gunpowder is still unknown. It is quite clear that Bacon did not discover it, neither did Schwartz, neither did Marcus Græcous; and our endeavours to arrive at the individual to whom this honour should be attributed have only had the effect of carrying us back into the mists of the Chinese of Asia, where, if we are to trust our documents, gunpowder has been known from time immemorial. This is certain, its first application to artillery in Europe dates from about the beginning of the 4th century.

Having stated thus much about gunpowder, it is time for us to direct our attention to guns; and, first of all, let us take a glance at the armaments of the Exhibition. Conspicuous for these engines amongst all the associated nations, are the various kinds of guns sent us from Belgium, of different weight and bore, all of them demonstrating the high amount of excellence to which our neighbours have arrived in making heavy castings. These Belgian guns, although good specimens, afford very little scope for general remark; indeed, a cannon is so simple a weapon, that very little can be said about its construction or properties. At the present time, cannons are almost invariably made either of

cast iron or a sort of brass termed gun-metal; but before the art of casting and boring were brought to their present perfection, cannons were made of bars of wrought iron, confined together with hoops; indeed, in many cases, even this amount of constructive skill was too great for the cannon-maker, who contented himself with using hollow wooden trunks, and, on some occasions, coils of rope. As for wrought iron, the attempt has often been made to weld it into cannons; but, so far as cannons of large size are concerned, the attempt has been invariably unsuccessful, for the reason that our means of welding such large masses of iron are imperfect. Probably our readers will remember the circumstance of a large wrought-iron cannon having burst, some years ago, on board of an American ship of war, the second or third time of firing.

For small cannons wrought iron answers well enough, but the process of manufacture is laborious, and the gun, when made, is not better than one made of brass. In the English service, such small cannons, as field-pieces, are usually made of brass, but larger cannons of iron. In France, however, it is by no means uncommon for battering cannon to be made of the latter material. The advantages of a brass cannon are lightness and strength; the disadvantages, softness of material—causing the touch-hole to enlarge, and the bore of the gun to be abraded; pliability, which destroys the straightness of axis, and causes the muzzle, after a certain time, to droop; and, lastly, a dull, heavy, painful noise on being discharged. In the English service (we cannot answer for that of other nations), the balls intended to be fired out of brass guns are usually fixed in a wooden cup or basket, by which means their contact with the brass barrel is prevented, and their abrading influence is diminished.

Large fire-arms may be divided into cannons, mortars, howitzers, and rockets, and are generally intended for the purpose of projecting solid balls; but, of late years, the practice of employing the latter has become prevalent. The bore of a cannon is of the same size throughout, but mortars, howitzers, and carronades are chambered, or, in other words, are smaller in the part which receives their charge of powder than in the rest of their bore—a contrivance which permits the charge to be ignited more centrally than otherwise would have been possible, and thus enables the powder to explode with increased effect. The chambering of large fire-arms is analogous to the practice of breeching of portable guns—a contrivance which we shall speak of presently. The theory of the propulsion of fire-arms missiles is almost too simple for remark; the vast force of these projectiles being dependent on the sudden evolution of an immense volume of gas, generated by the combustion of gunpowder. Long after the discovery of cannons, the flight of their projectiles was attributed to the mysterious agency of a "flying fire," considered to follow a different law from that regulating the flight of all other bodies; and anterior to the period of Tartaglia, the Venetian, artists universally believed that the first part of the flight of cannon-balls was in an absolutely straight line. The fallacy of this opinion Tartaglia demonstrated by showing that even from the first instant of discharge fire-arms missiles described a curve; and soon after, Galileo proved that the curve was to be derived from a parabola. We say derived from a parabola, because, contrary to what school books tell us on this point, the curve is only a true parabola in vacuo. If the cannon-balls be fired at slow velocities, the curve does not largely vary from the parabolic form, and the parabolic theory may be applied with advantage as a basis of calculation to the law of their flight; but if they be projected at high velocities, the parabolic theory is useless.

The Belgians give us an example of their ingenuity in making bomb-shells; the Russians do the same. These terrible projectiles, although very simple to look at, require great delicacy in their manufacture. They must be cast without any flaws, and must possess an equal thickness in every part. To determine the absence of flaws, each bomb-shell is proved by forcing air into it with bellows whilst under water; and equality of thickness is proved by gauging. Shells are nearly filled with gunpowder, and are driven into the air by means of a given number of seconds, and to explode the charge within the shell when the latter shall have arrived at the desired mark.

Formerly shells were exclusively shot out of mortars and howitzers, but they are now very generally shot out of long guns. The Shrapnell shell is similar to the bomb shells we have been describing, but much thinner; and, instead of mere gunpowder, it contains a mixture of gunpowder and small iron balls, the former just enough to burst the shell and scatter the balls. The Shrapnell shell is intended for doing execution at distances beyond the range of canister and grape-shot, both of which scatter immediately they leave the gun. The largest sized bomb-shell used in our service has a diameter of thirteen inches; beyond which size they may be made, but the mortars for shooting them would be not only unwieldy, but the heavy castings would be generally imperfect. Cartridges, short, light, large-bored cannons, made to burst, and with much smaller quantities of powder than other guns of equal bore, and chiefly designed for the upper decks of ships, where the weight of ordinary large cannons would be a disadvantage.

Congreve rockets are only modifications of the common sky rockets, which, far from having been applied to warlike uses by Sir W. Congreve for the first time, have been used for purposes of amusement in China from time immemorial. This fact is testified by Sir William Congreve himself, in his treatise on rocket practice.

And now, having hurried over the department of cannons with something like the velocity of their own missiles, we come to speak of small arms of fire. We cannot devote either time or space to an historical investigation of the subject, but must content ourselves with a general comparison of the arms in use in the present day. In the first department again, the Belgians are prominently conspicuous, displaying guns and pistols of all kinds, to suit the tastes of various nations—European, African, Asiatic, and American. From the small-bored, long barreled gun, with short stock, used by the turbulent hordes of north Africa, to the delicacies of breech-loading rifles and revolving pistols, the Belgians have them all; and we would have our military readers mark well this fact, that amid the collection of small fire-arms, including patterns of different nations, the British musket is the worst constructed, most ill devised, and inefficient instrument of all: we would have them mark this too, that the common musket is fast giving way to the rifle, which by the modern plan of using conical bullets, can hit off a man with comfortable facility at a distance of some 800 yards. These facts are significant. Whilst penning these lines, we are informed, on competent authority, that the Belgians in the English department, as well as the English in the Belgian, are already commencing the line will be armed with the oval-bored rifle, that is to say, a two-grooved rifle, in which the grooves are so wide and so deep that the section of the barrel presents an oval contour. With a weapon of this construction it is said that a man may be hit off at 1000 yards. The English authorities repudiate a breech-loading gun as being liable to get out of order; hence the Belgian will be charged with the task of being the first to succeed.

But we are anticipating our subject. We have not yet said what a rifle is. A rifle, then, is a gun, the barrel of which, instead of being smooth inside, is cut in furrows running in a screw-like or spiral direction, by which contrivance the bullet cannot roll out as it does from common guns, but assumes in its exit the barrel's spiral twist, and after leaving the gun spins through the air on an axis coincident with its curve of flight, by which means very great precision of aim is acquired. It follows, from a consideration of the rifle gun, that that end of a bullet which first emerges, strikes the object first; in other words, so long as the spinning motion of the bullet continues, the axis of rotation of the bullet does not change. Taking advantage of this principle, rifle bullets may be made of a conical or pyriform shape, by which means an increased velocity may be first from the barrel, and a smaller diameter at the conical rifle bullet will always strike first foremost, and if this tip be made of steel, the penetrating effect of the missile becomes terrific, as the reader may satisfy himself by taking a glance at the French department, where he will see the effect of shooting these steel-tipped bullets against a thick plate of wrought iron.

As considerable difficulty is experienced in charging rifle guns by means of various contrivances, but has been reduced to a great extent for loading them at the breech; but in the military service of all nations, loading by the muzzle has until lately prevailed. In the Prussian *Reichs-gewehr*, or needle gun, however, loading by the breech is effected by a very ingenious contrivance; and the cartridge, on one end of which is stuck a patch of detonating powder, becomes exploded by the rapid darting of a small iron pin, whence the flame of the cartridge is derived. The patent breeching, of which we spoke when treating of chambered artillery, is an invention of the late Mr. Egg, by means of which the charge of powder becomes ignited centrally, not laterally; and instead of being a mere screw-plug, as the common breeching apparatus of muskets and low-priced fowling-pieces, consists of a small chamber, which screws on to the butt extremity of the barrel.

The American revolving pistols differ from those commonly seen in England, in the circumstance of their only having one barrel a fixture, the compound breeching being made to revolve; whereas, in the English revolving pistol, the barrels themselves turn on a pivot.

And now, trusting that the reader's experience of fire-arms may never verge disagreeably towards the practical, we make our bow, and conclude the subject.



ELIZABETHAN CEILING.—BY JACKSON AND SONS, OF RATHBONE-PLACE.

CEILING. BY JACKSON AND SONS.

Although rather heavy (and this fault is made more perceptible by the very tasteless colouring bestowed upon the work), this specimen of one period of the Elizabethan style still very creditably shows what can be done with paper in this manufacture.

SECRETAIRE. FROM FLORENCE.

Among all the specimens of furniture in the Building, few will be found to compete successfully with this article, in appropriateness to its purpose, beauty of design, skill in carving, and general high finish. The details are elaborated in a manner which no words adequately convey to the mind.

"ORIGIN OF THE DIMPLE." BY KIRK.

This fanciful subject has been very cleverly treated by Mr. Kirk in the little group of which we give an Engraving.

TEA-TRAY. BY WALTON AND CO.

The sets of trays, by Walton and Co., of Wolverhampton, present specimens of various styles, from the simple and severe Etruscan to the brilliantly coloured mosaic and alhambraque. The *Renaissance* wine-tray is an example of the use of pearl to produce a natural effect, by being introduced as jewels, in conjunction with gold and colours. Something remains to be said of the process of manufacture employed upon these goods. The perfect adhesion of an opaque glass, fused by heat on the surface of wrought iron, so as to produce a smooth and even enamel, capable of withstanding the effects of the atmosphere, and also alternations from heat to cold, has long been considered a great desideratum by all manufacturers of hardware; and it has only been after a considerable expenditure of time and capital, that Messrs. Frederick Walton and Co. have been enabled to patent a process for effecting this object. The articles shown are covered with two descriptions of enamel: the one intended for better purposes is of a pure white colour; that upon the commoner goods, as stable-buckets, water-cans, &c., is black, and applied to coat the articles both inside and out, being less expensive. It does not show dirt so easily, and is equally effective and durable. In these works the ornaments are designed by Alfred Finley, the figures painted by Henry Stanier, and the flowers by E. Haseler.



"ORIGIN OF THE DIMPLE."—BY KIRK.



TEA-TRAY.—BY WALTON AND CO., OF WOLVERHAMPTON.



SECRETAIRE, FROM FLORENCE.

STATE HOWDAH.—EAST INDIA DEPARTMENT.

This state howdah, or palanquin, which is exhibited by her Majesty, is a specimen of the extreme of Oriental luxury. It is made of ivory, carved, and surmounted by a gold-embroidered canopy, with trappings to match, which fall around the sides of the elephant which carries it.

SLATE BATH. BY MAGNUS.

Excepting the blue columns, which will never suggest *Ipsa laetit*, the utmost extravagance of which most persons' fancy is capable is here realised at no enormous cost, with signal success, in the imitation of different marbles, which have been judiciously chosen.

A LAST VIEW OF DIVERS FOREIGN EXHIBITORS.

BEFORE bringing to a close the Supplements in which an attempt has been made to describe and illustrate the most remarkable of the specimens of industry and skill exhibited in the Crystal Palace, we desire to mention in turn all the countries which pressure of other matter, or the smallness of their contributions, or the late period at which they were unpacked, have caused us hitherto to pass by. We must urge to those who consider themselves neglected, that the Crystal Palace contains 18 acres of various productions, and that it would take nearly as many acres of print and pictures to describe them all.

We shall commence by noting the salient "exhibits" of the nations and colonies which have not hitherto formed the subject of separate articles, like those devoted to France, Russia, and the United States, and conclude by noting contributions of any importance which have been unpacked within the last few weeks. We begin with

HOLLAND.—The kingdom of the Netherlands, or Holland, as it is more commonly called, in this country, occupies a deservedly high place among the commercial nations of Europe—a rank due to the probity, industry, and enterprise of its people. Holland has maintained its national credit in the face of misfortunes that would have engulfed a less industrious and frugal country in hopeless bankruptcy. Without mines, with few manufactures, with a limited territory, with only one colony of any importance, with a weight of taxation, as calculated per head, only second to that of Great Britain, in spite of a revolution and a war which deprived her of a territory and population of mines and manufactures, Holland holds a rank, and inspires a degree of confidence and respect which appears in striking contrast with Spain—a kingdom which, with natural

resources, second to none in the world, is always on the verge of open national bankruptcy, and has become a by-word for everything that is politically degrading and dishonest. Holland and Spain were both great powers while England was still in the infancy of its commercial career, but they have sunk to the condition of second-rate powers from totally different causes. Holland has not fallen, but has been compelled by a limited

mansion should be—rich, not gaudy, thick, warm, soft as velvet. The designs have avoided the absurdity of preparing landscapes or flowers to be walked on. Among articles of luxury, we much admired a cloak, muff, and ruffles of a beautiful pearl white, made by Messrs. Haas, of Hague, of the feathers of the *Columba cristatus*, a sea bird of the diver species. It is impossible to imagine anything more delicate or more likely

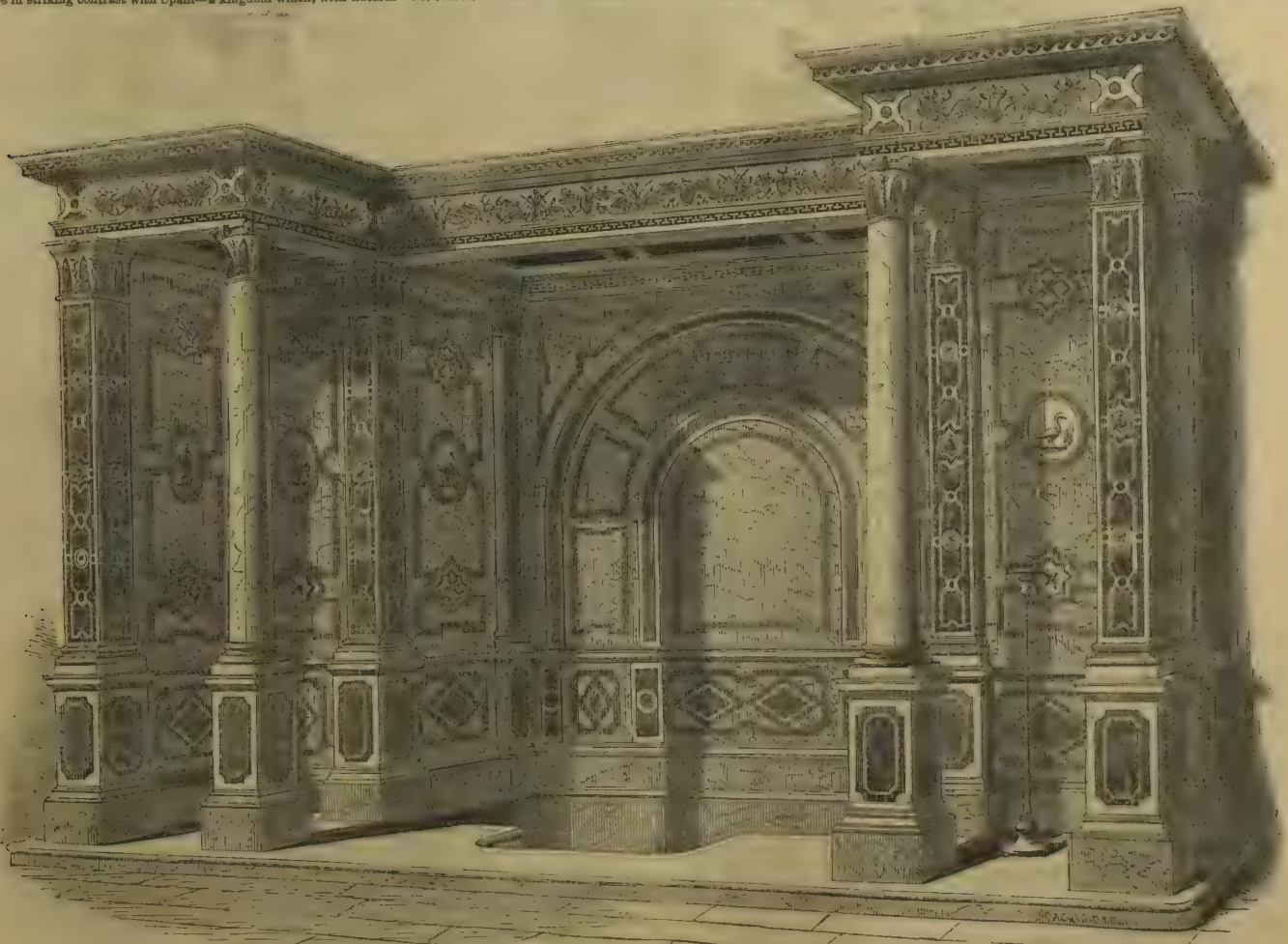
territory to stand still while other nations of greater natural resources have marched on, and has been obliged to pay in taxation the penalty of wars and convulsions forced upon her by surrounding powerful neighbours; but Spain has sunk under the inevitable influence of a despotic corrupt government, and an indolent, feeble-minded, ignorant people. The one is a nation of farmers, of artisans, of sailors, of shopkeepers and merchants; the other is a nation of place-hunters and picaroons. The great features of the Spanish Exhibition are a set of assassin-like swords and daggers, and the model of a bull-fight. The Dutch have scarcely sent anything that may not be ranged in the class of utility. Their exhibition is by no means equal to the well-deserved reputation of the country. The Dutch ship-builders have sent very little; the Dutch gardeners nothing either in tools or produce; and the builders and engineers have not, as we might have hoped, favoured us with any models of the many curious contrivances by which they manage to pump out and keep out the sea from a district nearly as large as Yorkshire.

Out of 116 specimens exhibited, nearly half consist of such useful but uninteresting articles as lead and other mineral paints, water-colours, oil-sake, patent starch, chicory, wax, ivory-black, dyes—of which one, polychromate, is a new dye—leather, ropes, brooms, brushes, horse-hair, flax and hemp, veterinary medicines, and other unpicturesurable materials. Stearine candles of good colour, great hardness and size, have been sent; but the price seems to afford no prospect of a competition with our English makers, which would be of advantage to consumers. The same may be said of the blankets, some of them dyed a bright scarlet for exportation: the quality is excellent, but they are dearer than English blankets of the same size.

Two carpets of magnificent dimensions, each woven in one piece without seam, from the Royal carpet manufactory of Deventer, are displayed on the west wall, which deserves examination. One is from a Turkey, the other a Smyrna pattern, and they may stand comparison for colour, design, execution, and materials, with anything in the Building. According to our notion, they are just what library or dining-room carpets of a great



STATE HOWDAH.—EXHIBITED BY THE EAST INDIA COMPANY.—(FROM A PHOTOGRAPH BY CLAUDET.)



SLATE BATH.—BY MAGNUS AND CO.

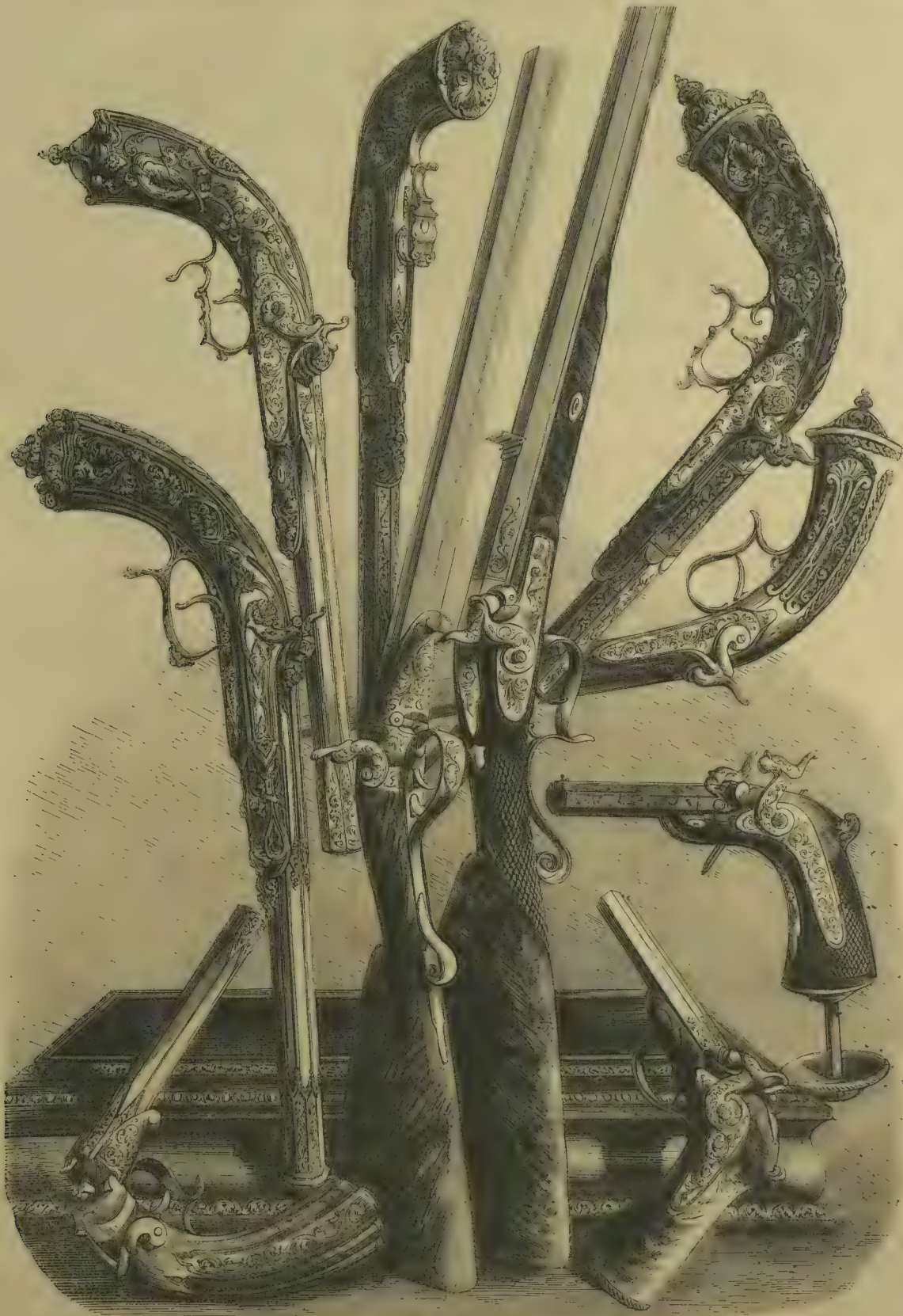
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[GRATIS.]



THE GREAT EXHIBITION.—GROUP OF ARMS IN THE FRENCH DEPARTMENT.

We have already more than once remarked upon the splendid decoration lavished by the French gunsmiths upon their weapons of offence and defence, giving all the attractiveness and charm of a plaything to

the engine of death. For this ornamental manufacture the gunsmiths of Paris (Devisme, Lefauchaux, Delacour, Lepages, Claudin, and others) are especially distinguished; and the display which they make in a

northern bay leading out of the Foreign Nave, daily attracts the attention of those interested in warlike operations and field-sports. Our Engraving comprises a group of the most striking of these productions.



THE CLOCK-CASE SHOP.

VISIT TO A CLERKENWELL CLOCK FACTORY.

CLERKENWELL has long been noted for the manufacture of every description of clocks. There are, however, not more than about half a dozen clock manufactories on a large scale, the work being, for the most part, done by those who are known as small masters, employing one or two journeymen or apprentices, and who attend entirely to particular branches of the trade; for instance—there are the dial enameller, the hand maker, the pinion maker, the wheel cutter, the fusee cutter, the spring maker, the movement maker, the pendulum and barrel maker, the carver, the case maker, the clock-glass maker, the French polisher, and the finisher: so that, when a clock of a particular construction is ordered of one of the small masters, he has to depend on more than a dozen workmen, living in various parts of the district, for the several distinct portions of work required to complete the clock. Delay after delay is the consequence. "The wheel-cutter is so much engaged," or "the case-maker has deceived me," and such like, are among the reasons for disappointing, again and again, the anxious inventor of some horological improvement. It is quite obvious, therefore, that a factory which embraces all the various branches of the business must possess considerable advantages, especially when all the operators are under the immediate superintendence and practised eye of the principals.

Our attention was lately directed to such an establishment in St. John's Square, Clerkenwell, belonging to Messrs. J. Smith and Sons, which occupies the site of the once famous clock manufactory of Colonel Magniac. One of the principals kindly attended to us during an entire day, which we spent in examining closely the various operations necessary in producing a clock, and also several beautiful machines employed in facilitating some of the more difficult and tedious processes.

We, in the first place, noticed the stock of mahogany which is introduced into the yard, around which the various workshops are placed, direct from the West India Docks. The mahogany logs, which are from 18 inches to 3 feet square, and from 8 to 70 feet in length, are in the first instance cut up into boards, varying from three-quarters of an inch to 2 inches in thickness, which, for the purpose of seasoning, are racked in the open yard, in a horizontal position, for about two years; after which period they are transferred to a shed, and placed in a vertical position, being separated from each other by a rack at top. Here they remain for three years, after which they are ready for use. For clock-cases intended for hot climates, the additional precaution is taken of stacking the boards at about seven feet above the glass-bending

kiln. There are three kinds of mahogany used—Spanish, Cuba, and Honduras; oak is also used, besides maple, rosewood, satin, and other fancy woods. At the saw-pit we observed some logs of oak being

cut up, of a rich brown colour, which is only attained by great age; the logs in question were at least 200 years old.

The principal divisions in the manufacture of a clock are, the brass-founding, the glass-bending, the case-making, and the clock-making.

Brass-founding.—Every piece of brass-work used in a clock made at Messrs. Smith and Son's establishment is cast in the foundry, at the east end of the yard, as seen in the Engraving. The furnace, which is under the level of the floor, is constructed chiefly of Stourbridge bricks; the ash-pit is in front, and covered over with a grating. Gas coke is sometimes used, but coke of a harder description, similar to that made for locomotive engines, is preferred. The casting-pots used are made chiefly of clay and powdered coke, and are formed with a small spout, but without any handle. When the metal is put into the melting-pot, the founder places it into the furnace by means of tongs of a peculiar shape. The pots are of conoidal form, some of which will hold 50 lb of metal, which consists of about two of copper and one of spelter, or zinc, for most purposes in clock-making; but the quality is altered at pleasure, for particular purposes, by changing the proportions of the copper and spelter respectively. For turret clock-work, gun metal is used instead of brass.

The casting trough is made of wood with sloping sides, and is placed opposite to the furnace. The sand used for taking the cast is from Hamstead Heath, and is mixed with loam from the same locality, in the proportion of about one half of the latter to one of the former. This is the only description of sand used by all London brass founders. All the various pieces of brass required in the construction of a clock can be cast at the same time. The impression of one side of the article to be cast is first taken in the sand from a suitable pattern, the sand having been firmly pressed into one half of an iron frame or mould; the same process is observed with regard to the other half. When the two half frames are put together by means of casting boards, one at top and the other at bottom, and secured together by means of wood-screws, ridges are formed in the sand from each sinking or impression into the main channel which terminates with an opening on the side of the frame, through which the liquid metal is poured, and which fills up all the cavities. While the metal is being poured into the mould, it is placed with one side towards what is called a spilling trough, which receives the waste metal escaping from the pot. In a few minutes the boards are taken off, the sand removed, and the rough articles of brass are separated from each other, and removed to the various shops.

Brass-finishing shop.—In this department the clock rings, or bezels, are turned by the lathe, the hinges being let into the rings and soldered, and the whole subjected again to the operation of turning, and finally finished. Here, also, the dials are silvered. The cases for the clock weights and pendulums, which are of sheet-brass, are also made in this shop, at one end of which is a forge, which is principally used for forging the hammer stems, pulley frames, pinions, repeating work, &c., of turret clocks, which are brought to great perfection at this establishment. Here, also, the brazing and soldering are effected. The sheet brass is cut out by means of large shears, with as much ease as a piece of card-board with ordinary scissors. At the other end of the shop is a manu-motive wheel cutting machine, specially used for cutting out from the solid brass the wheels for turret clocks. It consists of a large fly-wheel, which is turned by hand, communication from which is effected by a round band passing to a 4-inch pulley fixed on the spindle of the cutter, by which the teeth are formed; the frame containing the cutter is furnished with both a horizontal and vertical movement, by which the exact portion of the wheel to the cut is regulated. Underneath the frame is a projecting arm, the use of which is to keep the wheel in its place during the operation. The



THE BRASS FOUNDRY.

number and size of the teeth of a wheel of any given diameter are regulated by a circular brass plate of about 18 inches diameter, through which are perforated different series of holes, ranged in concentric circles.

Besides the wheel-cutting engine, there is another machine of a different construction, used for cutting the pinions for church clocks. It is furnished with a cutter, which rotates at considerable velocity on a stationary axis; the pinion is moved horizontally underneath the cutter, which is so constructed that it not only cuts the slit in the pinion, but also shapes the leaves at the same time.

The dials are made either of sheet tin, iron, or brass, the faces of which are coated with what is technically termed *white-lead*, a superior kind of white-lead, which is ground down with the finest description of copal varnish, and then put into a stove, similar to that used by japanners, until it becomes sufficiently hard to receive a polish, which is effected chiefly with pumice-stone, by which means a most perfect surface is produced, ready to receive the figures, which are painted with lamp-black, varnish, and turpentine.

The church clock dials are coated four times with black paint, and sized and gilt in the ordinary way; the gold, however, for this purpose, is of extra thickness. The divisions of the dials are set out by means of an index plate. Opposite to the wheel-cutting engine, as above described, is a simple and ingenious contrivance, for grinding the edges of clock and watch glasses. The operator stands in front of the work, with his right hand turning round a handle, placed vertically above the bench, and with his left hand holding a sort of hood, or, as it is called, cup, supplied with emery powder, by which the grinding is partially effected: the glass to be ground is temporarily fixed on a box-wood mallet, by means of cement, at the top of a spindle, which passes through the bench, and to which rapid motion is communicated by a round band from a horizontal wheel below the bench, turned by the right hand of the operator.

After the grinding is completed, the edge of the glass is smoothed with pumice stone, and finally polished with oxide of tin, usually called putty-powder.

The glass-bending shop is situated on the south side of the yard, and is fitted up with furnaces and an annealing oven.

The crown glass, used for enclosing the dials of clocks and watches, before being moulded or bent into the required form, is first cut into circular shape by means of a circle-cutter, which consists of a circular board, covered with wash-leather, which is made to revolve on a pivot by one hand of the operator, while with the other hand he presses down a diamond on to the glass; the diamond is fixed at the end of an adjustable arm, which traverses a slot, the exact diameter of the circular plate to be cut being regulated by an index fixed at the side of the slot. The circular flat plates, which are removed to moulds turned out of



THE REGULATOR AND GENERAL CLOCK SHOP.



THE TURRET-CLOCK SHOP.

solid fire-stone, the sinking of the moulds being of flat elliptical section, are put into one or other of the furnaces, according to the size of the glass to be bent: while in the furnace, the mould is kept in continual circular motion by the long iron rod of the operator, until the glass sinks into the required form. The size to which glass is bent at this manufactory is equal to 30 inches in diameter. The grinding and polishing the edge of the glass is the next operation, which has already been described as being carried on in another part of the premises.

The clock-case making department (of which we furnish an illustration) is situated on the floor above the "brass finishing shop." Here is manufactured every kind of case, from the ordinary office dial clock to the elegant ornamental case of the first-class regulator. The variety of designs followed to suit particular tastes is rather astonishing.

In order to produce the most beautiful work, as well as that of the most sound description, the external covering is produced by laying on veneers, an operation requiring considerable care, by means of *cauls*, which are simply pieces of wood of the shape of the articles to be veneered, made hot and screwed down close to the foundation on one side, and the veneered lining on the other: thus, the soundest work is produced, and the cracks and flaws so commonly seen in inferior cabinet-work are thus avoided.

Each bench in this shop is furnished with a *German screw*, by which the work is more firmly held together, and closer joints effected, than by the ordinary screw attached to the English bench.

In the course of construction we observed a very handsome case for a first-rate regulator, which is now to be seen at the Great Exhibition. The bulk-work of brass and mother-of-pearl, &c., which is let into some of the clock-cases, is produced by a machine called a "nuddy," which derives its name from the workman standing across the body of the machine. The pattern intended to be used is first cut out in brass, which serves as a type from which to print any number of copies on thin paper: these paper patterns are pasted on the brass, pearl, wood, or other suitable material intended to be used. By means of a treadle worked by the left foot of the operator, the work is readily shifted; while with his right hand he cuts out the work by means of a very fine saw, made of a watch spring, and having exceedingly fine teeth on one edge.

Adjoining the case-maker's shop is a department entirely set apart for the "system plan," each man attending continually to one particular branch of the business; thus, to one is assigned the barrel making, to another the pinion work, or what is known among clock-makers as filling in the movement, and so on.

There is one machine in this department which especially attracted our attention, and that is called a "fuzee engine," by which the spiral groove is cut in the solid brass intended for the fuzee. The brass is put upon a steel arbor, placed between two centres; the operator with his right hand presses a triangular sliding bar, furnished at the end with a steel cutter against the brass, while with his left hand he turns a handle in connexion with a sliding frame, on which is a brass bar placed at any given angle so as to regulate the size of the spiral groove; this bar is adjusted by means of a segment at either end. By this machine the grooves of fuzees of from three-quarters of an inch to the largest size required are readily cut.

On the south side of the yard are two clock-makers' shops—the one on the upper floor being entirely devoted to the finest and most delicate kind of work required for bracket clocks, regulators, &c.; and the lower one on the ground-floor solely for the works of turret and church clocks. (Views of both these shops are engraved in our present Number.) In the upper shop we observed every kind of tools required in making and finishing the various parts of a regulator, which we had the opportunity of examining in order. First, the frames, which are constructed of thick brass: these are hammered, and then planed up and filed square; the pillars by which the two frames are connected, are next turned, and fitted with large screws; after the size of the arbors of the pinions are subjected to the turning process by means of a turn-bench, worked by a drill-bow in the left hand of the workman. The back-cock and the clutch, the thumb-screws, and other brass works are then roughed out; and, finally, the several parts are finished, chiefly by means of a hand-lathe turned by the workman's left hand, while the cutting tool is held in the right hand. For ordinary descriptions of work a common foot-lathe is used. After the several wheels have been finished by means of the "throw" or hand-lathe, they are fixed on to their respective arbors of steel, and the deepening tool is now brought into action, by which the exact positions of the centres of motion are determined, in order to make the necessary perforations in the frames for the pivots of the pinions to work in. This tool consists of two similar horizontal pieces of brass, hinged together and turned up at each end, to receive a socket-piece, also of brass, and placed horizontally; there are four of each socket-piece, one on the side of each of which is a *centre-piece* to receive the pivots of the wheels and pinions, and on the outside a steel pointer, by which the centres of motion are marked on the brass frames with the utmost accuracy. Thus the wheel and socket is placed on the arbor between the centre-pieces in one section of the deepening machine, and the pinion into which it is intended to work on the other: the relative position of wheel and pinion is regulated with great accuracy by means of an adjusting screw, by which the two portions of the machine are either brought nearer together or removed further from each other as required. The maintaining power, consist-

ing of the barrel, the main-wheel, the going ratchet, and the two clacks, the brass dial plate, with the hands of steel, and the compensation mercurial pendulum of glass, with its steel rod and index, make up the several parts of the regulator. In the lower shop, in which turret work alone is constructed, the lathes are of a stronger description, and the tools generally more nearly resemble those in use in the best turning shops of the kingdom.

After visiting the various manufacturing departments of the establishment, we were finally conducted to the show-rooms, which contain an extensive assortment of eight-day skeleton clocks, representing various ecclesiastical edifices, some striking the hours on a cathedral-toned gong, and others chiming the quarters on eight bells. Then there are regulators, hall clocks, musical clocks, and bracket clocks, in cases of old oak, mahogany, and rosewood, both carved and plain, many of which are of elaborate design, and all produced at this establishment. Nor are these clocks solely for the English market, but also for China, Turkey, and other parts of the world, as we discovered by the curious characters on the dials answering to our numerals.

WOULD THAT WE COULD!

(ANSWER TO THE FOLLOWING.)

Come forth, ye toiling millions! God's universe is fair.
Come forth from crowded street,
And cool your feverish feet
With a trample on the turf in the pleasant open air!

ILLUSTRATED LONDON NEWS, May 17.

Ah, would that we could!
With a shout of delight, and steps bounding and light,
That would fain tread the hill-top, and race with the wind;
With our hearts full of glee, and our glad spirits free,
How soon should we leave the thronged city behind!

Ah, would that we could!
Pent in darkness and gloom, bending over the loom;
In the workshop and office, dark alley and lane;
What a pleasure to rove through the deep shady grove,
Or to stroll through the valley, or bound o'er the plain;

Ah, would that we could!
Where the sun its bright beams through the dull window streams,
And we hear the caged lark warble forth its sweet lay;
When we dream of the flowers in the green leafy bowers,
How we long for the fields at this zenith of May!

Ah, would that we could!
But in fancy alone, where the soft glades are strown
With the beauties of Flora, alas! we can stroll,
By sleeping lake ponder, by dewy mead wander,
Alone in the beautiful dreams of the soul.

Ah, would that we could!
When perchance we peruse the sweet themes of the Muse
When the beauties of nature inspire the rich song;
When the Poet reveals all the pleasure he feels,
Then our wish becomes stronger, ay, doubly strong.

Ah, would that we could!
Then health's rose-tinted bloom would in beauty reume
Her right place on each cheek, now so pallid and wan;
Then our strength would increase, our complaints would cease,
And all that we suffer from, quickly be gone.

E. D. F.

TAXIDERMY.

(To the Editor of the ILLUSTRATED LONDON NEWS.)

SIR,—I have just read in your excellent paper Mr. Waterton's strictures upon the taxidermy in the Great Exhibition; and, with all my respect for that eminent naturalist's opinion, I cannot bring myself, being an exhibitor in that art, tamely, in my own case, to submit to them. The peacock I exhibited, when I left it there, was, I felt convinced, a very near approach to the peculiar character of that bird when its wondrous train is expanded. Now, possibly, having no case, the currents in the Building may partially have disarranged the tail feathers. During the process of stuffing the bird (which occupied, for want of leisure, several months), I made the live bird my study; and if that is not the real principle of taxidermy, I know of no other: the mechanical processes are merely accessory. The creature must be seen alive, to be stuffed properly. If any person is curious enough to compare some snowy owl in the Exhibition with one alive in the Zoological Gardens, he would hardly know them to be birds of the same species. It was my intention to offer the peacock, when the Exhibition was over, to the British Museum; and I think I cannot do better than

fulfil that intention: perhaps Mr. Waterton will allow it is good enough for that purpose. May I beg the favour of the insertion of this note.

I have the honour to be, sir, your very obedient servant,

Bury St. Edmunds, Sept. 8.

J. B. P. DEWHIS.

(To the Editor of the ILLUSTRATED LONDON NEWS.)

Newcastle-upon-Tyne, 18th August, 1851.

In the Supplement to your Journal of the 26th July, there appeared an article on the Taxidermy of the Exhibition, from an able correspondent, to the justice of whose remarks every unprejudiced visitor must assent.

In the following week, Mr. Waterton, apparently jealous of the praise bestowed upon some of the exhibitors, informed your readers that he had declined to exhibit, although requested to do so—that he is dissatisfied with the natural history in the Exhibition—and that the mode of preparation universally followed in taxidermy is so devoid of real principle, that he who follows it, however clever he may be, will never succeed in producing exact copies of nature's true form and appearance.

Mr. Waterton's method is well known to taxidermists; but will that gentleman have the goodness to inform your readers how he knows by what method the respective exhibitors have prepared their specimens, which he can only have seen from the outside of the cases? The only principle one would imagine that a taxidermist ought to adopt, is to produce, as nearly as he can, a representation of the natural object.

It is to be regretted that Mr. Waterton did not comply with the request made to him, and allow the public, who, after all, are the best judges in these matters, the opportunity of comparing his performances with his pretensions. It is too much to expect, that, lacking this opportunity, they are to receive, unquestioned, Mr. Waterton's dogmatical assertion, that the works of those who have had the manliness to challenge examination, and some of which have received the approval of every eye but himself, are devoid of real principle, and are not exact copies of nature's true form and appearance.

If Mr. Waterton really believes in his superior powers as a taxidermist, and wishes to convince others of them, it is surely his duty even now to apply to the Executive Committee to admit his specimens. Let them be placed in the Transept alongside of Mr. Hancock's cases: "palam qui meruit ferat." From my acquaintance with the productions of these two gentlemen, I do not hesitate to predict, that, in the judgment of every scientific naturalist and every intelligent observer, Mr. Waterton must yield the laurel.

Your obedient servant, J. W.

FRENCH AGRICULTURE.

THE four Engravings, presented on this and the opposite pages, are careful and faithful representations by a French artist of phases of French rural economy and industry. The merry time of "harvest home" has finished in our southern and midland counties and in the north; in the rich Lothians and the equally fertile regions of Moray and Ross; the reapers are even now in the field, gathering, we trust, a plentiful crop of the teeming fruits of the earth. We have thought it probable, therefore, that at this particular season of the year, our rural friends—and, let us hope, our urban friends also—gratefully calling to mind the prosperous ingathering for the year in which we have recently been engaged, will look with interest and pleasure upon a series of faithful representations of the husbandry of our neighbours across the Channel, of how they manage these things in France.

Not better, certainly, than in England; on the contrary, over the greater portion of the great kingdom of France, much worse. We have much, doubtless, to learn in agriculture; our farmers have long been wedded to old custom and hampered by old prejudices; but the start has been made. With the downfall of enervating corn laws there seems likely to spring up a new era of active and enlightened rural industry. The farmer will be put in the position of other manufacturers. He must strive hard, and exert all his ingenuity to grow as much as he can, as cheaply as he can, and—already, we believe, he has manfully set his shoulder to the wheel—he is learning, he is endeavouring, he is applying scientific means to the cultivation of land, and the ultimate result, sooner or later, will certainly be the advancement and elevation of the agricultural body and the general good, arising from general cheapness, of the great bulk of society.

In France no such progress is taking place, at least, in a general and national point of view. The Engravings we give will show at a glance the backward and old-fashioned state of matters. In reaping, the old-fashioned hook is still used, and the corn is cut so roughly and irregularly, that the stubble left on the ground is often of all heights, from an inch to a foot. The rude and shapeless form of the stacks, as represented in another Engraving, is of no great importance in itself, but is symbolic of the slovenly, and far from ship-shape style of managing farming matters in general. The winnowing process, represented, may have been practised by the patriarchs. It is only in the extreme northern parts of Scotland that we have seen corn winnowed by the primitive expedient



HARVEST IN FRANCE.—STACKING.

of leaving two opposite doors of the barn open, and then flinging up the grain and the chaff into the thorough draught thus created; but last season, visiting soon after harvest time the magnificent corn growing plain of the Beauce, a vast expanse of table land, lying between the valleys of the Seine and the Loire, and popularly called the "granary of France," we found in the barns of the French farmers the antiquated practice of the remote north in full operation. Winnowing machines, we ascertained, on inquiry, did exist, but they were few and far between. In the northern portion of France, towards the Belgian Frontier, the best and most scientifically cultivated district there is, no doubt, plenty of mechanism of this kind; but, crossing the Loire, and advancing into the regions of the centre and the south, we

find agriculture and agricultural implements in the rudest state, not much advanced, in fact, from what they were in the old times of the wars of the Fronde. The fourth cut represents the common costume of the French small proprietor going forth to labour in his own patch of ground. The blouse is a blue one, and looks better than our smock-frocks, because it keeps longer clean. The Artist has represented him with shoes and gaiters, but he wears sabots just as often. The spade is for digging, instead of ploughing up his croft of land, a most uneconomical way of preparing it for the seed; the large-bladed, short-handled hoe—all the hoeing tools of the French peasantry are painfully short-handled—is probably to be used in loosening the earth round the roots of his vines; the string seen crossing his chest supports a bag with

some coarse bread, onions in the north, and garlic in the south, with perhaps a tin mug, containing milk and water, or *pignette*, the latter a sort of winy vinegar, made of the last squeezings of the grape-skins, with the addition of water. The wife, or daughter, of the workman carries to him his dinner of hot, sweet, vegetable soup.

We have hinted that French agriculture is far behind English. French soil is generally more fertile than ours, but yet we manage to extract considerably more than twice as much from it. Much as we have to learn, we are at all events learning it. The French agriculturists are not; they are making no advance; they are sinning to the notions and pursuing the plans of their grandfathers and great-grandfathers. Hardly an improved implement will they allow



HARVEST IN FRANCE.—REAPING.



FRENCH AGRICULTURE.—WINNOWING.

to be introduced—hardly a new scheme or theory of cultivation will they accept. "What did for our fathers," they say, "will do for us, and ought to do for our sons." The fact is, however, and it is the misfortune of France, and of its system of social economy, that you hardly ever find living permanently in the country any members of the more enlightened and intelligent, because educated, classes. French people of the better sort have no taste for rural life. They may come down to the *château* for a couple of autumnal months, to shoot, and hunt, and fish, but they know nothing of farming affairs, and take no interest in the science of the cultivation of the earth. Let the farmers but pay their rents, and the one thing needful has been accomplished. Thus, there are few or no country gentlemen in France, resident magistrates, active farmers, enterprising experimentalists, as many of our country gentlemen in England are. We have travelled in purely rural districts for days and days, and never encountered a person above the rank of the poor, honest, ignorant, blouse-clothed boor. All the mental activity of France—all its learning, enterprise, and fermenting ingenuity—are bottled up in the towns. All the brain of the country, in fact, flows naturally towards the towns. Little notabilities flock to the chief places of the *arrondissement*, or the department, and plunge into all sorts of political intrigue, with the view of coming in for Government patronage—the amount of which in France is perfectly enormous—just as all the bigger notabilities, and the stronger and more daring minds of the provinces, struggle up to Paris, and there enact the

same career on a grander scale. The fool of the family only is left—in that significant French sneer—*au fond de sa province*—to attend to the putting down of seed and the taking up of corn. So much for the better classes. The actual farm labour is conducted entirely by uneducated bores—kind, honest, excellent people, but living in the densest ignorance, and walked in by the most hopeless prejudice. A French farmer is seldom in any degree removed above the hinds whom he employs. They live together, labour together, eat together, and of the same food, talk the same *patois* and share in the same ideas, or rather the same want of them. The master has no feeling that he is socially above his servant. Mere accident has made him the farmer, the other the hind—but they labour in the same field, with the same tools, and in the same fashion. There are no directions or orders, passed from one to the other; and for the simple reason that the man knows as well what is to be done as the master can tell him. Everything goes on by old routine rule of thumb. Their fathers sowed, and reaped, and thrashed, and they sow, and reap, and thrash, exactly in the same fashion. The whole rural practical population are in, point of fact, placed upon the same table-land of ignorance and prejudice.

Another curious influence which tends to equalise master and man is the result of the extreme sub-division of property. Although there are many vast estates, and very many moderately large ones, in France, the great majority of the working peasantry are small landowners in their own right. In some districts this rule is universal. How often have we heard the phrase in answer to our enquiries "*Oh—dieu—voyez-vous: tout le monde a un morceau de terre*." The possession of land, indeed, is the one ambition of a French peasant. Offer him good wages, and a comfortable abode as a farm servant. No; he will prefer to eat maize and rye, and drink water on his own patch of earth, and in his own hovel erected upon it. Some of these patches, however, have, by the constant process of subdivision—which, be it remarked, does not, as has been asserted, stop with the interests of parties, but goes on in spite of them—divided gradually down to mere spots, from which not one human being—to say nothing of a family—could derive a subsistence. The landowner is then, per force, driven as a farm labourer into the service of the nearest farmer, to whom he pays a certain small sum, generally deducted from his wages; in return for which the farmer ploughs, sows, and reaps the patch of his dependent, of course, handing him over the fruits. We remember how strangely it sounded, when a farm labourer in the frontier of the Beauce told us that he was ploughing, for behoof of his master, his own land, and that tomorrow he would be ploughing his neighbours'; for that all the small proprietors in the vicinity, unable to subsist upon their patches, were in the service of a farmer who performed for their land what they could not do themselves.

One of the consequences of the subdivision of property system is, that a vast proportion—we fear we may safely say great majority of the smaller proprietors, particularly in the south and east—are over head and ears in debt. As dependent upon the soil as an Irish squatter, when the portion of each became too small for him, he was obliged to buy more land. To do this he had to borrow money in the neighbouring town, mortgaging, of course, his old and his newly acquired property; and as it too often happens that the rate of interest to be paid to the mortgagee amounts to nearly as much—in some cases to quite—as much as the mortgagee can, by his imperfect cultivation, extract from the land, the necessary consequence is grinding poverty and hopeless embarrassment. It is, we believe, from this vast mass of peasant suffering that the French socialists in great part recruit their ranks. The people are desperate, over head and ears in debt, with no prospect of working themselves clear, paying what they consider an exorbitant interest to idle people living on their money in town. It is from such a state of things as this, that M. Fourrière and M. Proudhon win their proselytes. It is from this great mass of struggling, desperate poverty, that we hear proceeding, or by which we hear ratified, the dictum, that *le propriétaire c'est le roi*; and it is from these ranks that there rises the ominous battle cry of *à bas les riches*!

The general sum of wages of a French labouring peasant is 30 sous, or 15d. per day. He is frequently paid only in one franc, and receives the remaining moiety of that sum in food at his master's house. His meals, in point of quantity, would suit the most voracious chaw-bacon in England; but, as regards quality, we fear that Hampshire and Somersetshire would turn up their noses. Bread and vegetable soups and stews form the staple nourishment of the French peasant. In summer he makes four meals a day. Breakfast he takes before going a-field, in the shape of an unlimited supply of hot savoury and wholesome soup, made, bow-

ever, for the most part, without meat, but aided by vast hunches of bread, baked of coarse flour in the north, flour and maize or flour and rye in a great portion of the central districts, and entirely maize or entirely rye in many parts of the south, particularly in the valleys of the Pyrenees. Dinner is a repetition of the breakfast, upon, if possible, a still larger scale, and the soup may be a thought more generous by the addition of a very small quantity of meat, which, in the form of *bouilli* boiled to rags is served in the fluid which it has contributed to strengthen. The dinner takes place about noon or one o'clock. An afternoon meal, called the *gouter*, consists of bread and a morsel of cheese, seasoned, perhaps, with an onion or a clove of garlic and supper, about sunset, repeats once more the eternal procession of soup and bread. Of course, in different districts, there are varieties in the bill of fare, but bread and soup are the corner-stones all over France. In the south, for instance, oil is greatly used: we have seen it poured over bread like butter. In the fruit season a vast quantity of the produce of the orchards and gardens is dispatched. Indeed, in grape-growing countries, during the season, a peasant would almost as soon dispense with his bowl of soup to begin with, as his cluster of grapes by way of dessert. Wine of the thinnest and sourest sort is scrupulously mixed with water, and even then drunk in very small quantities. Indeed, their glorious grapes have often seemed to us to be thrown away upon the French altogether; they appear, from the highest to the lowest, to care so little for the exquisite fermented produce of their vineyards. Indeed, we verily believe that if all France could be polled upon the question, the action would be, by a large majority, that the nation would rather eat their grapes than drink the wine made of them. Were it not for the foreign demand, half the vineyards would go out of cultivation, the care and skill bestowed in rearing the plants for the higher class of wines would be extinct in a season, and very little of the produce actually made for France would rank higher than a common and unflavoured *vin ordinaire*.

NOOKS AND CORNERS OF OLD ENGLAND.

CRYPT UNDER GERARD'S HALL, BASING-LANE.

The original edifice, the vaults whereof, represented in the accompanying Cut, are the only remaining vestige, was erected by John Gisora, *peppercor*, Mayor of London in 1245. Stow describes it as "a great house of old time, builded upon arched vaults, and with arched gates of stone, brought from Cane, in Normandy." A modern inn has replaced the ancient hall, which had latterly been divided into a number of apartments, and appropriated as a common hostelry, under the tutelage of "Gerard the Giant," one of the fabulous worthies of Cockaigne in the old time.

This giant is said, by tradition, to have been the founder of the hall



CRYPT UNDER GERARD'S HALL, BASING-LANE.

which bears his name, and a great pole which stood in the place was shown as the staff used by Gerard in the wars "to run withal," but, whether before or after his foes, is not stated. A ladder was likewise exhibited, which served to ascend to the top of the stair; and in the neighbouring church of St. Mildred, Bread-street, hangs a great tilting-helmet, said to have been worn by the said *giant* for the protection of his jobbernowl in battle. "The pole," says Stow, "might be used of old time (as then the custom was in every parish) to be set up in the summer, a May pole, before the principal house in the parish or street, and to stand in the hall before the shrine, decked with holme and ivie, at the Feast of Christmas. The ladder served for the decking of the May pole and roof of the hall."

The groined roof of the vault is supported by sixteen pillars; and the



EFFECT OF GERARD THE GIANT.



FRENCH AGRICULTURAL LABOURER.

"The wind and rain blew mercilessly in my teeth as I waded hastily onwards solitary, and filled by the most gloomy reflections, yet determined to reach Stockton at all hazards. The track being completely obliterated by the rain, the prominent features of the country were my only guide. Ascending and descending the slippery sides of the mountains, was most laborious. The arroyos or gullies were filled with deep water, cataracts came revving down from the mountains, carrying avalanches of soil and trees with them; the very earth itself seemed to be afraid

A FEW DAYS IN THE LAKE DISTRICT.—No. II.

HE following tour is projected more especially for the pedestrian and horseman, but may be used, except in one or two cases (which will be pointed out in their proper place), by those who prefer a car.

Premising the tourist at Keswick, and wishing to make a three or four days' foray, he will proceed by the eastern shore of Derwentwater

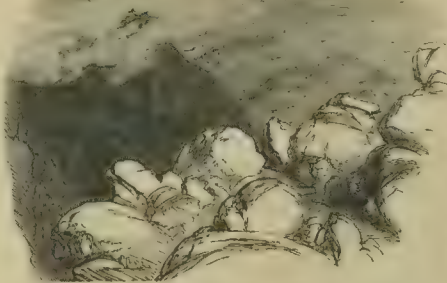


STOCKLEY BRIDGE, TOP OF BORROWDALE.

to Lowdore waterfall, pass the village and bridge of Grange—"subject of sketches innumerable"—and enter the secluded and romantic valley of Borrowdale.

One mile beyond Grange stands the Bowder, or boulder, Stone (see View), a detached rock weighing nearly 2000 tons, and resembling a vessel resting on its keel; on the right, at a short distance, is the beautiful eminence of Castle Craig, from which, West says, "the views are singularly great and pleasing;" and, indeed, if one of the finest views of Derwentwater, with its isles and guardian mountains, is not considered worthy the climbing Castle Craig to behold, the would-be tourist had better keep to his ottoman and indulge in "the pleasures of imagination;" for, undoubtedly, few other spots in Britain possess such manifold attractions. One mile further is the little village of Rothwaite; and half a mile further, the one Chapel and pretty parsonage of Borrowdale. From near this, a road on the left leads to the village of Stonethwaite, and by a mountain pass into Langdale; proceeding by the road on the right, Scafell, a neat residence, a little way on the road diverging from Borrowdale by Howister to Buttermere, is presented to view.

Cross Scafell Bridge; and forward three-quarters of a mile to Leathwaite Bridge, by a road presenting many charms. On the left is the limpid "Grange," and the extremely narrow valley with its miniature fields, and occasionally a small farm-house or cottage. Its eastern boundary is Koppel and Hind Crags and the soubrous Gannamara. On the right the road is almost bordered with the favourite beech-fern and overhung with trees, which extend backwards on the steep mountain sides to an immense height; but at intervals patches have been cleared for cultivation, and the skirts of these enclosures present features somewhat new in the mountain districts. The trees, without distinction, are "pollarded," the "Carver Holes," with a bole of four to five feet girth, bearing as vigorous



PART OF STYHEAD PASS.

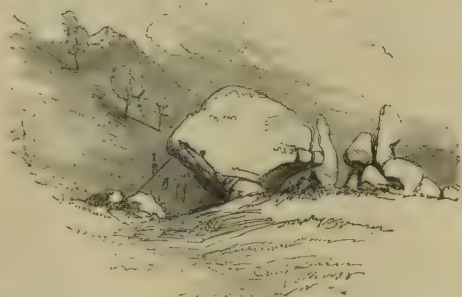
a spread of branches as the ash. On reaching Leathwaite Bridge, the pedestrian will keep the right bank of the river (leaving the road), to visit the celebrated yew trees—

—fraternal four of Borrowdale,
Joined in one solemn and capacious grove.

A little beyond the yew trees is the celebrated plumbago or wad mine, its site marked by a path from the wooden Far Bridge, and the debris of the excavations. Following the pathless river-marge, Stockley Bridge (see View) is reached. Rude are the materials of Stockley Bridge, and crude, perchance, the scientific skill of its peasant architect, yet there is a grace in its outlines in keeping with the wild scenery around; below, a foaming torrent; above, a quiet pool, fringed with graceful ferns; and behind, a background of rifted crags and noble mountains.

The traveller by car, having crossed the river at Leathwaite Bridge, and passed through the small and solitary hamlet of Leathwaite, will now have to depend upon a pony to bear him from here over Styhead

right, to peep into Taylor's Gill, a fine rock-girdled cascade; regain the path, or keep by the stream, and occasionally take a retrospect of Borrowdale, arrive at Styhead Tarn, "mirror of the mountains;" hence the path is exceedingly tortuous, winding around, and between huge blocks of stone. On the left, at a distance of two or three hundred paces, may be observed an object unusual to the eye of tourists. It is one of many gauges placed in this district by J. F. Miller, Esq., F.R.S., &c., of Whitehaven, who, with the ardour of genius, has worked out a series of interesting data relating to the extraordinary fall of rain in mountain regions. From Styhead Tarn, to the descent into Wastdale



BOWDER STONE.

the view is most magnificent: on the right are the green and great Gable Mountains; in front is Lingmell, over whose rugged top peer the pikes of the mighty Scafell—"chief of England's mountains;" on the left are Great End and Sprinklingfells. The descent of Styhead into Wastdale affords a view eminently beautiful. Far far below is the narrow valley and its interesting stone walls, its tiny chapel, and few and far between dwellings, its giant mountain, and partially seen lake (Wastwater); but it is not until the valley is reached, that the mountains can be fully appreciated. Great Gable, Yewbarrow, Lingmell, and the Scafell, separated by the awful chasm of Mickledoon, are there seen in all their glory.

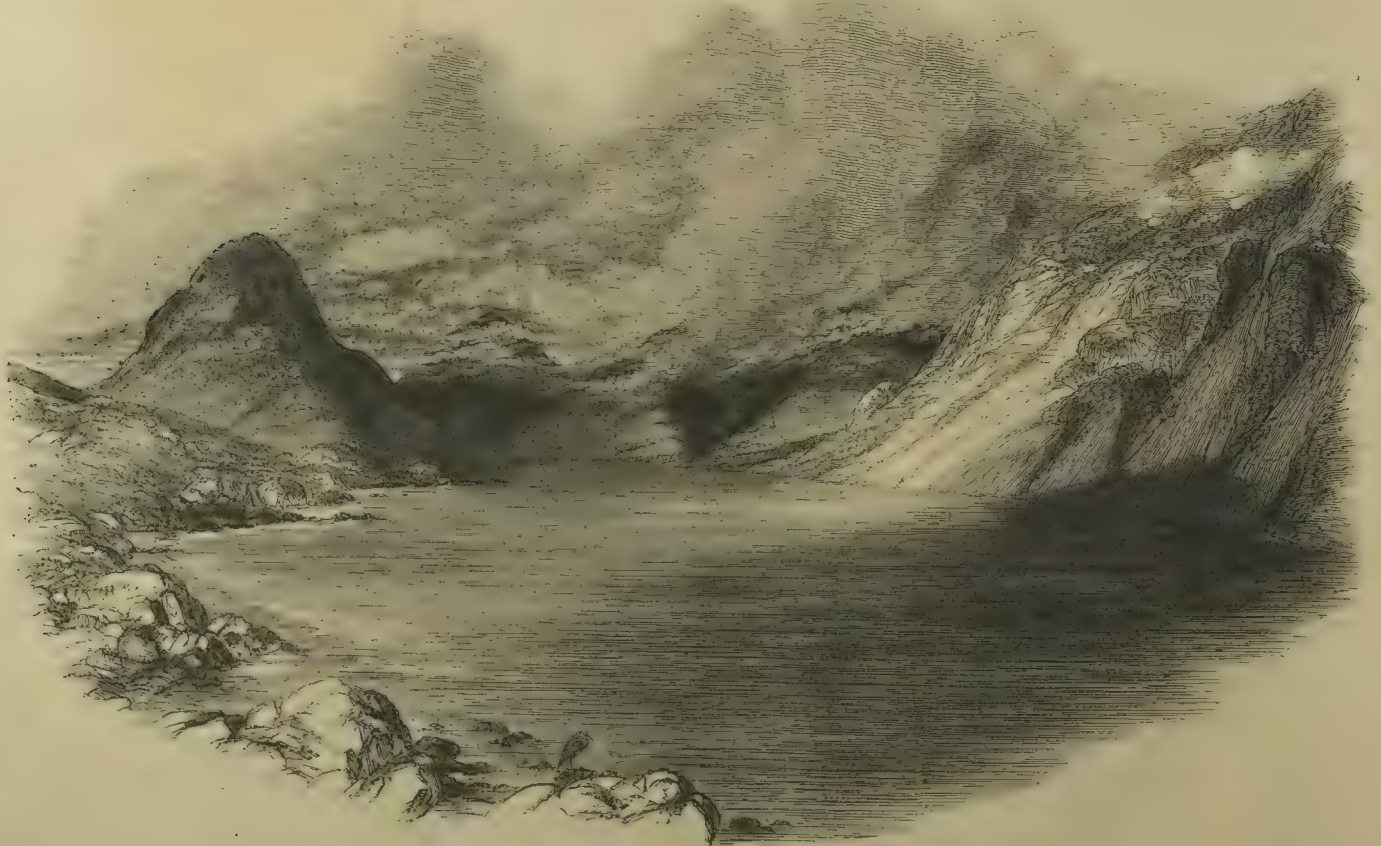
From Wastdale Head to the lake the road winds along the base of Yewbarrow; thence along and nearly parallel with the lake shore for three miles and a half, affording on every side scenery of the wildest grandeur: on the left, across the lake, are the stupendous "scree," on the right the steep sides of Middlefell and Buckbarrow, while the road ascends and descends, or winds to avoid the formidable crags, which here present an interesting geological feature, viz. the glacial theory of Agassiz. At the foot of the lake is Wastdale Hall, a site commanding a beautiful panoramic scene. Half a mile before we reach here, our View is taken. The masses to the right are the scree; next Scafell and Lingmell, under the clouds, which completely obscure Scafell Pike, the highest ground in England, 3166 feet above the level of the sea. The dark conical mountain in the centre of the view is Great Gable. Yewbarrow bounds our prospect to the left. Between it and Great Gable is seen the dark edge of Kirkfell, itself an oasis of the mountain desert, seated amid luxuriant woods and fertile meadows: it boasts a thriving pinetum, foremost of which is the *Auracaria* of Norfolk Island, and the weeping *Dodard* of Nepal. A little below this is a ravine in the scree, called Hawl or Hole-gill, containing several exquisite miniature cascades, and there the delicate filmy fern grows with unwonted vigour. Arrive at Strands, with choice of two hotels, and proceed to Gosforth by a road affording some pleasing views of the vale of Ravenglass. Arrived at Gosforth, the church forms the sole object of interest in its ancient and



CRUMMOCK WATER, LOOKING TOWARDS SCALE HILL.

Pass to Wastdale Head, five miles, or probably to Strands, a further distance of six miles, before he can engage another.

From Stockley Bridge, the path winds the steep breast of Aaron End. The pedestrian may leave the path, and proceed a short distance on the



WAST WATER, FROM GOSFORTH ROAD, NEAR THE FOOT.

A FEW DAYS IN THE LAKE DISTRICT.—No. II.

sculptured cross, the quaint epitaphs of the tombstones, and its peculiar cenotaphs. From Gosforth by the high-road to Calder-bridge, three miles; *boat* at the quiet and highly respectable hostel of Mrs. Clarke, or at mine host's of the "Golden Fleeca." W. Jackson, champion of the wrestling ring. One mile from the village are the celebrated ruins of Calder Abbey, mentioned, and view given, in the first route. About a mile above the Abbey are the remains of a Roman or Danish camp. From the Abbey or the camp the pedestrian may trace the course of the "winding Calder" to the wooden bridge at Thorneyholme; then keep the left or west branch of the river for a distance of about two miles to a rustic and frail wooden bridge, spanning a chasm of the rocks—crossing it and seeking the nearest farm-house, he will receive instructions to find the road leading to Ennerdale-bridge.

The traveller by car or pony will have to keep the fine mountain road over Cold-fell to Ennerdale-bridge, one mile before he reaches which, *on view* is taken; thence to the boat-house on "Anglers' Inn," on Ennerdale Lake. From the windows here the view is extremely beautiful. Across the lake, on the right, is Cragfell, Reevellin, and the bold rocky Angling Stone; in front is the Side, Iron Crag, &c.; and nearly closing the head of the valley stands the imposing Pillar, with the pinnacled pillarstone on one side, and the water-shed of Windyett on the other. On the left from the boat-house is Herdhouse; below it is



ENNERDALE WATER, FROM CALDER BRIDGE ROAD, ONE MILE FROM ENNERDALE BRIDGE.

equally fine. Beyond Melbreak, rises Red Pike, Highstile, and High Crag terminated by Honister Crag; on the left is the house, and black promontory of Rannerdale Knot, which has been partially blasted down to form the roadway, even now almost overhanging the darkly deep water. Pony and car will keep this road from Scale Hill to Buttermere. Buttermere has long been known to one-half the world by the dramatic story of its rustic beauty, "Mary of Buttermere," and will now become known to the other half through the misadventures of its "Sandboys" family on their visit to the Great Exhibition. Half a mile from the village is Buttermere Lake, 1½ mile long, situated in a romantic region. From the foot the scene (see View) is one of savage grandeur: on the right is the steep side of Highstile, enlivened by the foamy cascades of Sour Milk Force; beyond is High Crag; and at the head of the lake, Honister Crag, 1700 feet high, gloomily frowns down on the lonely hamlet of Gate's Earth. On the left is Buttermere Moss, and at its foot the road leading by Honister pass to Borrowdale. Before leaving Buttermere, the tourist must see Scale Force, about two miles distant; he may take a boat on Crummock and land on the opposite shore, or follow a path leading through the fields between the two lakes, and cross the stream by a rustic wooden bridge; then on by the shore of Crummock till he meets the stream of the force; tracing it up a short distance, the loftiest waterfall of the lake district (loftier than Niagara) will meet his gaze. At first sight he may feel disappointed; as it is after climbing the first and insignificant fall, and having entered the narrow gorge, he feels the utter and impressive loneliness of his situation: a stream of water (scant though it may be in very dry weather) falling perpendicularly 166 feet—the cold misty spray—the twilight gloom—the fretwork of branches against the strip of sky above—and the red sienitic rocks clothed with a luxu-

riant growth of the rarer ferns—altogether form a scene of uncommon interest.

Leaving Buttermere by the Hanse road, the Chapel (see View) attracts attention, from its extremely small size; yet it is built on the site of one which contained only seven sittings—sufficient, too, for the population of the dale. The road at the summit of the Hanse is 800 feet high, and from thence descends to the Vale of Newlands—a romantic delf amidst lofty mountains; thence by way of Portinscale to Keswick.

THE NEW COAL-WHIPPER ACT.—At the close of last session, a new act of Parliament for the regulation of the coal-whippers of the port of London took effect. It is entitled, "An Act to continue and amend an act for establishing an office for the benefit of the coal-whippers of the port of London." There are 50 sections and a few forms in the new law, which is to continue in force until January, 1856. Some of the provisions are similar to the enactments in the former act. The Board of Trade has the appointment of three commissioners, and the city of London and the chairman of the coal-factors may each appoint one commissioner; they are to be styled "Commissioners for the Registration and Regulation of the Coal-Whippers of the Port of London." The chairman is to be annually appointed. All coal-whippers employed are to be registered, unless they have been registered. The coal-whippers' office is to regulate the proceedings under the commissioners. Tackle is to be found for the use of vessels discharging cargoes. Where a cargo is to be discharged by coal-whippers, the shipmaster is to apply to the office, and the wages are to be



LOWESWATER.

Bowness Knot, a fine craggy knoll; and still lower, the wooded promontory of Whinsey Crag; beyond, in range with Herdhouse, is the Cop, Red Pike, Highstile, and High Crag, which terminates the view on the eastern flank of Ennerdale. Near the head of the lake is Smithy-beck: there and on the opposite shore are iron slag-heaps, testifying that the adventurous Roman (for there are no records to the contrary, and even

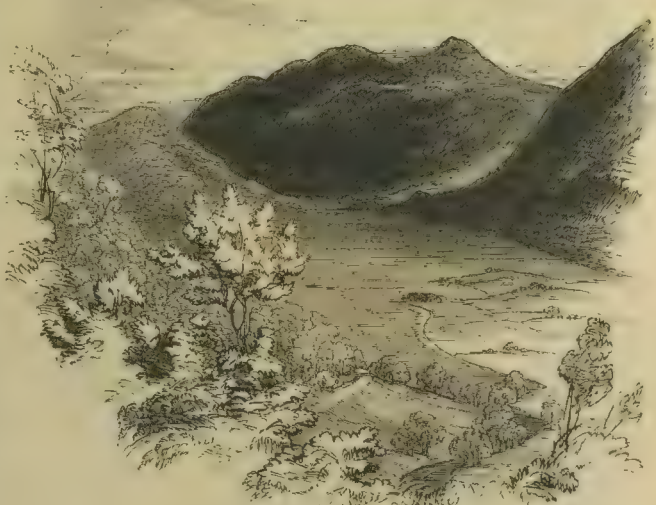


BUTTERMERE CHURCH.

tradition is silent) had penetrated this lonely region, and forged fetters for a people from their own soil. Leaving Ennerdale, the tourist, if walking, may proceed between Bannafell and Herdhouse, tracing the stream to its rise and over the ridge (leaving a peculiar cop or hill on the left) to Flontern tarn, a desolate, ink-looking sheet of water. From the tarn he will follow its discharging stream till he reaches Loweswater. By pony or car he will keep the high-road, through the ancient village of Lamplugh, cross the common, and by a precipitous descent (from which there is a remarkably fine view) reach the head of Loweswater (see View). The wood leads along the shore of the lake, across and around the foot of which, on the skirt of Melbreak, are some pretty pastoral scenes, farms, cottages, and white-washed chapel. A house on the left is said to have been an early residence of Lord Brougham; on the Scale Hill, "a right good hostel" for a sojourn. From thence, pleasant, well-kept walks, through Lanthwaite Wood (see View), lead to Crummock Water: from this it is optional to boat or walk along shore, at the foot of Melbreak, to Scale-force waterfall, a distance of four miles; then to the village of Buttermere, two miles further. Boating is to be preferred, as the scenery from the water is most magnificent, looking towards Scale Hill (see View). Melbreak towers proudly on the left; in front are the Lanthwaite Woods, and on the right are the lofty Grassmoor Ladhouse, Whitefield, and Whiteless Pike. Turning round, and looking up the lake, the scenery is



BUTTERMERE, FROM THE FIELDS AT THE FOOT.



CRUMMOCK WATER, FROM LANTHWAITE WOODS.

paid to an officer attending therefrom. There is an alteration in the payment of wages, declaring that a ship-master is not compelled to pay them but on board the vessel, which wages are to be paid to the men after certain deductions. The commissioners are empowered to make by-laws for the government of the coal-whippers, and for the management of the office, which by-laws are to be submitted to the Board of Trade, and the board is to signify their approval or disapproval of the same within four weeks. The other provisions principally relate to the recovery of monies and penalties. A "Fraction Fund" is to be established for the benefit of the men. All moneys, after the payment of wages and fractions to the fund, are to be paid into the Chamber of the City of London for the purposes of the act.

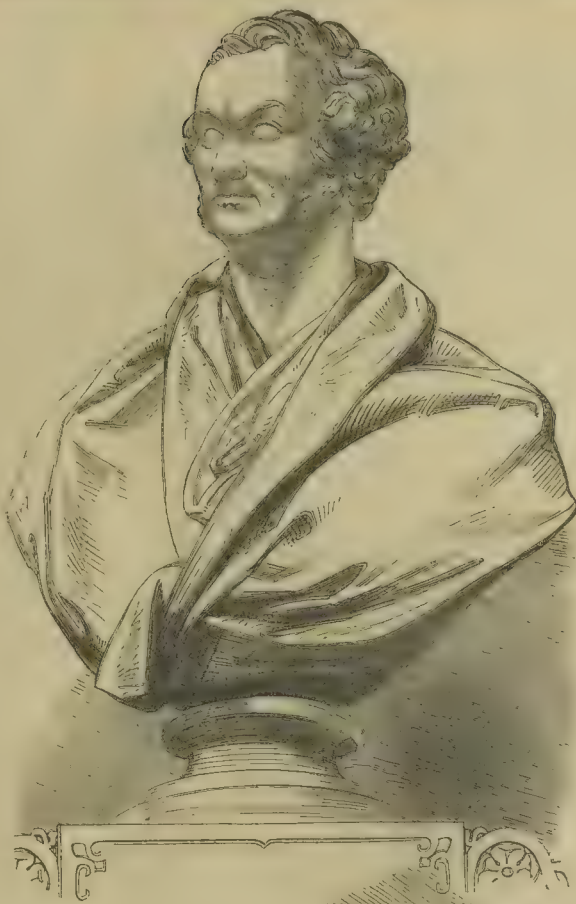
BIBLES AND PRAYER-BOOKS.—A parliamentary paper, obtained by Mr. Hume, has just been printed, containing a copy of this letters-patent under which the Queen's printers, Messrs. Eyre and Spottiswoode, exercise their privilege of printing Bibles and Prayer-books, and Acts of Parliament, as also an extract from a charter of the 11th Charles I., by which the University of Oxford claims the right of printing Bibles and Prayer-books. No return has been received from the University of Cambridge. It appears that George IV. granted letters-patent to Andrew Strahan, George Eyre, and Andrew Spottiswoode, and to their assigns, &c., as Royal printers, for and during the term of 30 years, to commence from the 21st of January, 1830. The University of Oxford claims the right of printing Bibles and Prayer-books under several charters, and more especially under the one mentioned. The right is stated not to be barred or limited or affected by any letters-patent since granted, according to several decisions in Chancery and in the House of Lords, in all of which the right was distinctly recog-

C B, Taunton—We will see
J F F, Warrington—Mrs O may be correct

MONUMENTAL BUST OF THE RIGHT HON. CHARLES BULLER.

It will be interesting to the many friends and admirers of the much lamented Charles Buller (says the *Examiner*), to know that a monument to his memory, subscribed for by the most eminent men in the State, of all opinions and parties, is now placed in the north transept of Westminster Abbey. It is a marble bust, with tablet and inscription. In the likeness (which otherwise is excellent) we miss something of the refinement of expression which we remember in life. Perhaps the features are a little too old and massive. But the sculptor has so happily caught (and, we understand, from posthumous records) the good-humour as well as intellect which distinguished the original, that the work must be regarded as a remarkable proof of the ability and taste of Mr. Weekes. It is placed immediately on the left of that fine specimen of the genius of his master, Chantrey—the statue of Francis Horner—commemorating a career as full of noble performance and noble promise, closed as prematurely, as deeply and widely deplored. The inscription on the tablet, recording with eloquent discrimination and feeling the characters and virtues of Charles Buller, is from the pen of his attached friend, Mr. Monckton Milnes:—

Here, amidst the memorials of maturer greatness, this tribute of private affection and public honour records the talents, virtues, and early death of the RIGHT HON. CHARLES BULLER, who, as an independent member of Parliament, and in the discharge of important offices of state, united the deepest human sympathies with wide and philosophic views of government and mankind, and pursued the noblest political and social objects, above party spirit and without an enemy. His character was distinguished by sincerity and resolution, his mind by vivacity and clearness of comprehension; while the vigour of expression and singular wit, that made him eminent in debate and delightful in society, were tempered by a most gentle and generous disposition, earnest in friendship and benevolent to all. The British Colonies will not forget the statesman who so well appreciated their desires and their destinies; and his country, in recalling what he was, deplores the vanished hope of all he might have become. He was born August —, 1806. He died November 29, 1848.



MONUMENTAL BUST OF THE RIGHT HON. THE LATE CHARLES BULLER, IN WESTMINSTER ABBEY.

NEW CONTRIBUTIONS FROM SWEDEN AND NORWAY IN THE GREAT EXHIBITION.

Just when we thought we had concluded our general bird's-eye view of the Crystal Palace, the King of Sweden and Norway sent in a cargo of miscellaneous contributions, which fill up, and more than fill up, the blanks to which we referred in a previous article. The carriage has not arrived, but the sledge is there in the shape of a sober comfortable thoroughly business-like looking vehicle, less luxuriously elegant than the Canadian sledges, more solid and business-like than the racing affairs from Russia. Rather square in outline, painted dark rosewood lined with blue cloth, with robotrimmed with the fur of one of those Norwegian bears that Mr. Lloyd used to take such pleasure in pursuing. It is a carriage in which, after a month's hard frost and snow, a respectable couple might take a drive without exciting any very particular attention. With the sledge have come two other vehicles, a gig and posting chariot, mounted on circular springs, for which the inventor claims advantages which could only be explained by a diagram. Following the example of Prussia and Spain, Sweden displays a huge cannon, with a novel contrivance for loading at the breech. This formidable instrument is placed in the avenue close to a gigantesque graceful egg-shaped urn of highly-polished red mottled granite, which would appear, so bold and unassuming, the curves, to have been cut out by machinery. The Swedes connect with the Exhibition are sanguine that this granite will become an article of commerce.

Among the articles for domestic use we must especially note two compact and economical cooking stoves, in which wood, charcoal, or peat may be used; a machine for heating flat irons, without contact with fire, which can stand on a table. This is very ingenious, and, on a smaller scale, to the many sensible ladies who themselves iron their fine things, would be invaluable. But the most generally useful article is a window sash, exhibited by Major Rosenhild, of Christiansand, Norway, which, without lines or weights, can instantaneously be moved up and down, or fixed from within, while, from the outside, it is impossible to move it. The invention consists in a "spring fitted into the stile of the sash." The free end of the spring fits into a catch formed in the window-frame, by which the sash is immovably fixed, and the projecting piece is pressed or lifted on to the catch, for which purpose the end of the spring projects a small distance beyond the surface. By applying the finger to this projection, the sash-frame can be moved either up or down, as may be required.

Some soapstone pans, which would be useful in boiling preserves or acids of any kind, to which we alluded in our notes on the United States, are exhibited by Sweden, and can be sold at a very cheap rate—about 1s. 3d. each. Indeed, the exhibitors claim the merit of cheapness for almost all the articles shown in this department; for instance, musks and tipids of gray squirrel-skin are marked at very moderate prices, although the higher class of furs are dearer in northern countries than in England.

Among the articles of luxury deserving attention are a carved wood picture-frame; rosewood tables, inlaid in silver; a chandelier of metal, with glass pendants, richly gilt; and a magnificent tankard of silver, fashioned after the pattern of a slice of the trunk of a tree, the handle formed by two gnarled twining arms. This is worthy to have been the drinking-cup of one of the strong-armed Berserkers, or fierce Scandinavian Sea-Kings.

Some of raw produce, fine samples of virgin silver and copper, and specimens of pearls, are very nicely arranged.

It is to be regretted that these contributions, which have given so much more importance to the department of Sweden and Norway, did not arrive earlier.

NEW CHURCH OF ST. JOHN, KENILWORTH.

ON the 19th instant the village of Kenilworth presented an unusually animated appearance, on the occasion of laying the foundation-stone of this new Church. The clergy of the neighbouring districts, many of the inhabitants, and several well-dressed visitors, assembled in the old parish church, at eleven o'clock, when a sermon was preached by the Venerable J. Sandford, D.D., Archbishop of Coventry. Upon the termination of the service, a procession to the site of the new Church was formed. The Abbey-street and the whole line of road to the site of the new Church, at the end of the village, towards Warwick, was more or less adorned with banners, flowers, and evergreens. The entrance to the site was also adorned with banners and flowers; and a raised platform for the visitors, the school children, &c., was graced at the back with a banner, on which the crown was emblazoned, with a loyal motto. Stretched out over the front of this platform, and near the foundation-stone, was a white streamer, with the words "Mine eyes shall be open, and mine ears attend to the prayer that is made in this place." About half-past one o'clock, the procession reached the ground. The service commenced with the singing of a hymn, "Great is the Lord our God." The officiating minister, the Rev. E. E. Wilmot, then read selections from the Scriptures, appropriate to the occasion. After the minister had recited two collects, the auditory and children sang the 117th Psalm with good effect. The leaden box, containing the scroll of parchment, was then deposited in a cavity beneath the stone, and the silver trowel being presented to Lord Leigh by C. J. Wheeler, Esq., his Lordship laid the stone, saying: "In the faith of Jesus Christ, and in the memory of St. John the Evangelist, we place this stone in the name of Jehovah, God the Father, God the Son, and God the Holy Ghost." The Rev. G. S. Bull, of Birmingham, then ascended the stone, and delivered an extemporaneous address, characterised by much feeling and eloquence.



NEW CHURCH OF ST. JOHN, AT KENILWORTH.

At the conclusion of the reverend gentleman's address, the assembly sang a hymn—"Lord, in this dark and stormy day."

The Rev. E. E. Wilmot then repeated some prayers, after which the National Anthem was sung by those assembled.

Mr. Boddington, surgeon, then mounted the stone, and asked for three cheers for Lord Leigh, which were given heartily. His Lordship briefly returned thanks, assuring the assembly how gladly he assisted, in his humble way, in promoting the work laudably set on foot by the Rev. Mr. Wilmot, to whose zeal and industry the parish was in the main indebted for the new edifice they were about to raise. His Lordship concluded by calling for three cheers for their worthy vicar. These being given, Mr. Wilmot returned thanks, and the procession again formed, and proceeded to the King's Arms, opposite to which it stopped, and after singing a hymn separated. Some old people were regaled with tea and cake on the ground, and the school children were similarly entertained on the grounds adjoining the residence of the vicar.

The site of the new Church abuts on the Leamington Railway on one side, and faces the Warwick coach-road on the other. It is about an acre in extent, and affords space for a new church, which is to be built on one side of the Church, and a school, which is to be erected on the other. The cost of the land is £350. The Church is to be built in the early English style, with a tower and spire, at a cost of £2500, exclusive of the site and the architect's percentage. It is to contain seats for 600, of which 400 are to be free. A collection was made on the ground, which amounted to £296.

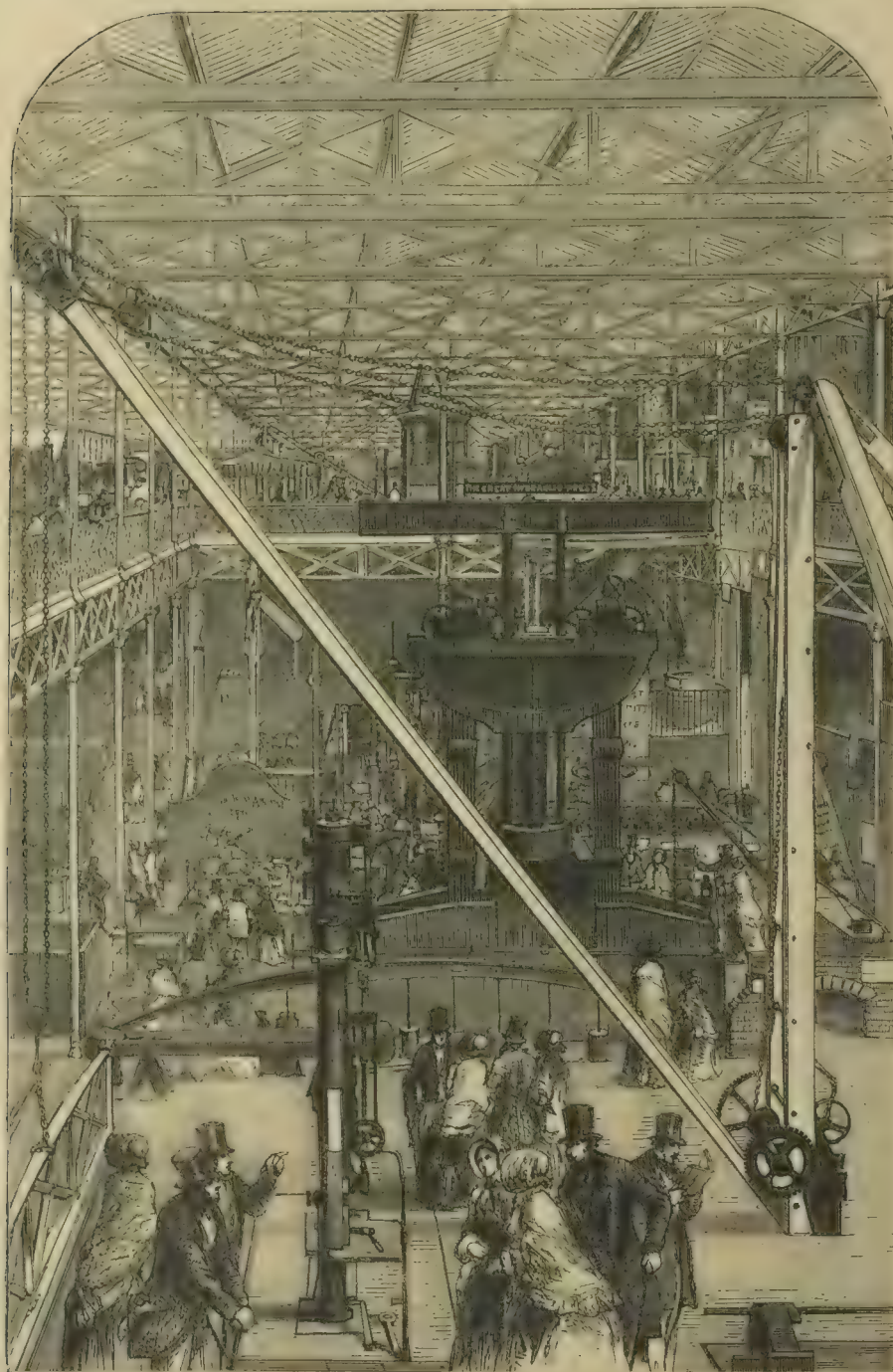
MONUMENT TO JOHN BROOKS, AT MANCHESTER.

THIS fine memorial to one of the great leaders of the Anti-Corn Law movement has recently been erected at Manchester. It is made entirely of Sicilian marble, and is adorned on its sides with symbolic statues, placed in niches, of Fortitude, Charity, Commerce, &c.; and in the pilasters and spandrels with floral emblems of the cotton and flax plants, poppies, roses, oak, laurel, and other branches, all bearing in their attributes, relation to the figure above and around which they are placed, and illustrative of the commercial and domestic character of the dead. In its general character the monument is particularly graceful, and is more worthy of note from its being of novel, yet, at the same time, highly pleasing outline and decoration. It is from the studio of Mr. John Thomas, architect and sculptor, Taddington.



MONUMENT TO THE LATE JOHN BROOKS, ESQ., AT MANCHESTER.

THE GREAT EXHIBITION.



MACHINERY COURT.

This and the opposite page contain two different representations of parts of the Exhibition Building; one, the Machinery Court, with Fairbairn's crane, and the famous patent hydraulic press which was used in raising the tubes of the Britannia Bridge; the other a part of the Foreign Nave, in the French department, with Mafial's large cast-iron vase in the foreground, and various articles of coarse grey pottery in the rear.

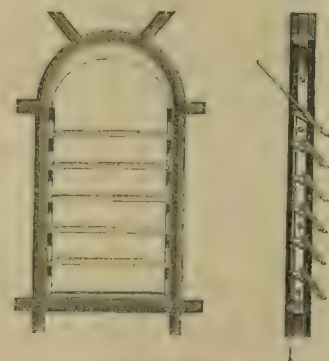
Messrs. Houldsworth and Co., of Manchester, exhibit several most beautiful specimens of patent machine embroideries, consisting of

quills, table-covers, panels, &c., which are equal to anything of the kind ever done before in this or any other country, and are admirably adapted for decorative purposes. We engrave two of them, which are both from designs by Langer, Dwyer, and Co. That on the top of the page is one of seven designs illustrative of the seven acts of mercy; the other represents, in child's sport, the ups and downs of life.

Moore's patent Louvre Ventilator is a very simple and efficacious contrivance, adapted for every form of window.



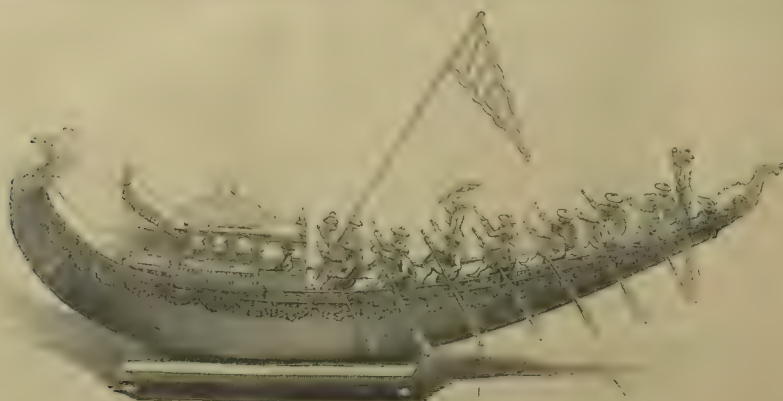
DESIGN WOVEN IN SILK.—BY HOULDSWORTH AND CO.



MOORE'S LOUVRE VENTILATOR.



DESIGN WOVEN IN SILK.—BY HOULDSWORTH AND CO.



MODEL OF AN INDIAN BARGE.—EAST INDIAN DEPARTMENT.

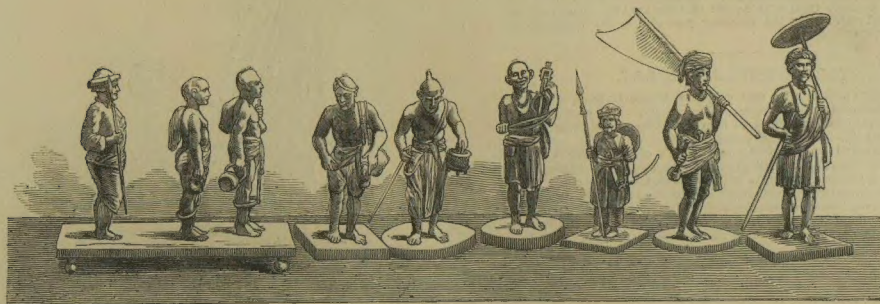


ALPINE PLANT PICTURE.—BY R. F. HECKEL, OF MANNHEIM.

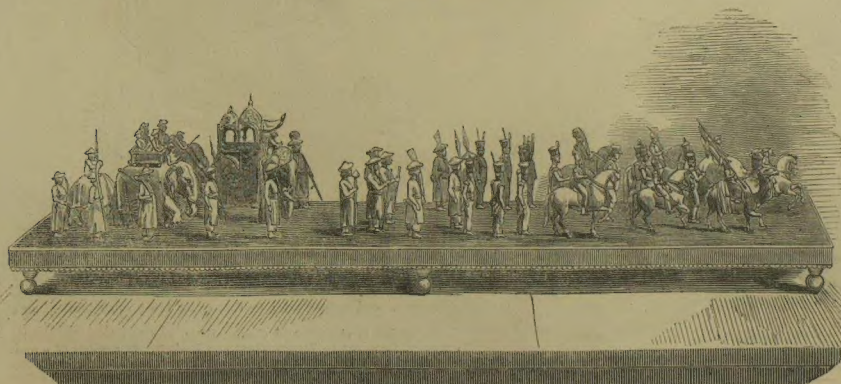
THE GREAT EXHIBITION.



BAY OF THE FRENCH DEPARTMENT.

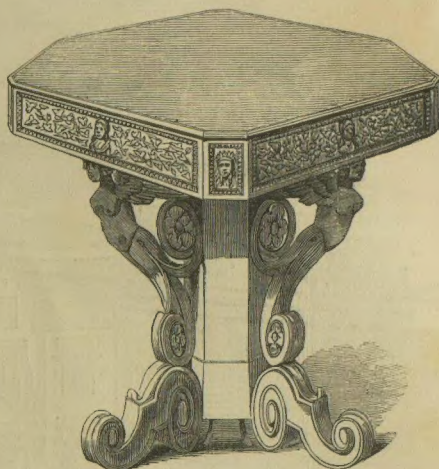


MODELS.—EAST INDIAN DEPARTMENT.



IVORY CARVING.—EAST INDIAN DEPARTMENT.

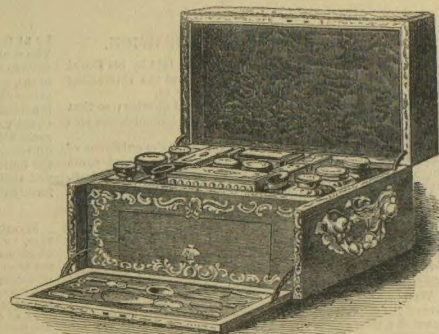
Several Pictures composed of Alpine Plants, exhibited in the Zollverein department, are fanciful compositions, in a style well adapted for the decoration of albums. The flowers present great variety of hue, and are combined with great taste.



PIANOFORTE.—BY PAPE, OF PARIS AND LONDON.

The Pianoforte by Mr. Pape, is one of his clever inventions. In its general appearance it resembles a loo-table, the top lifting up in sections, and displaying the keys, sounding-board, &c. There are remarkable designs amongst Mr. Pape's contributions, all possessing great claims to notice.

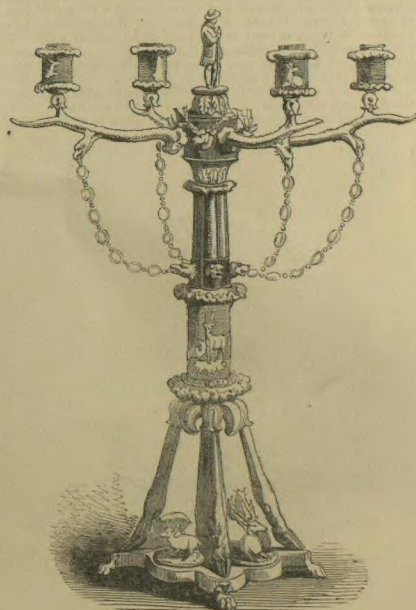
The various Models figuring in the East India department are extremely interesting, as exhibiting the costume and trades of almost every cast of the native population. We engrave two groups of these, one of which appears to be a procession, in which native and British troops are combined; a third Engraving represents a model of an Indian barge, with a native crew rowing her.



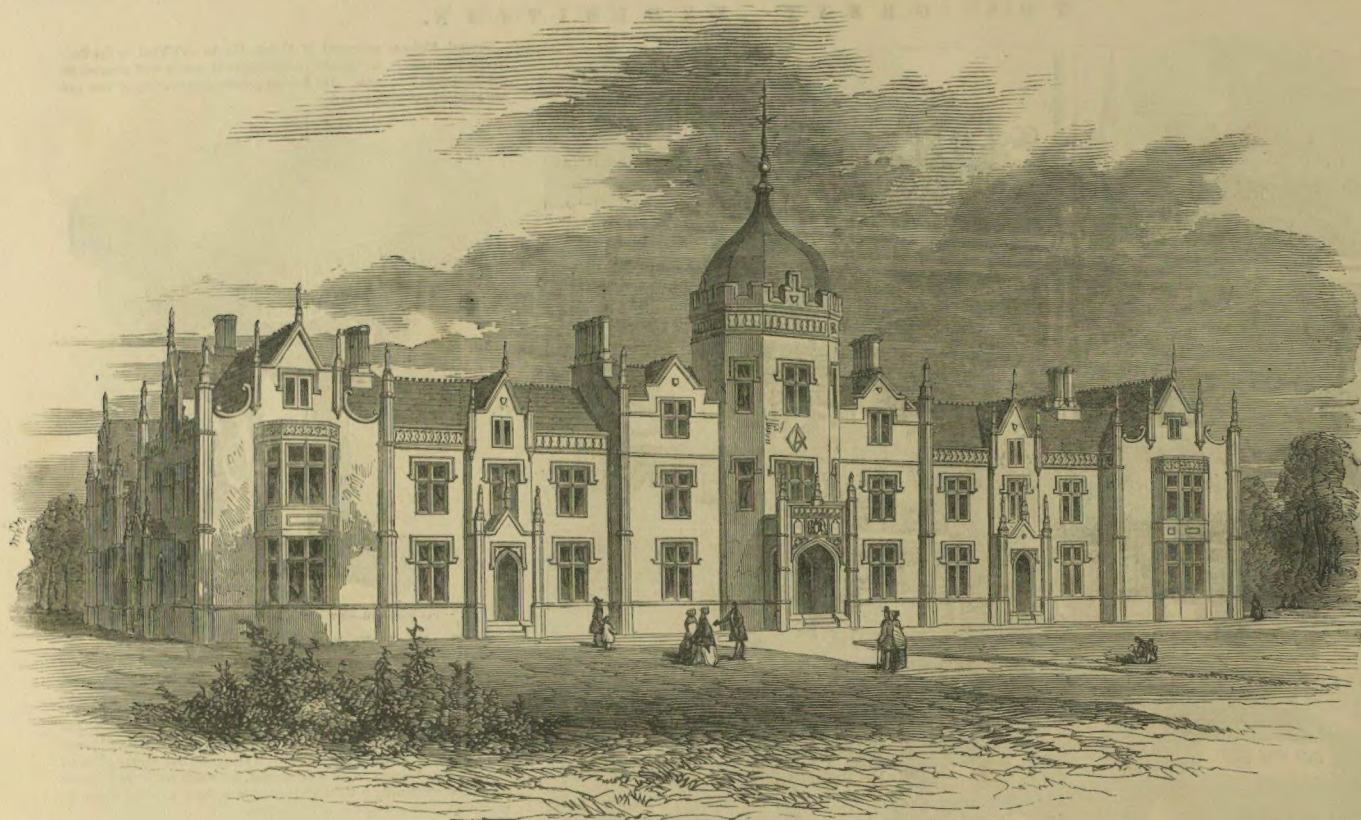
DRESSING-CASE.—BY C. ASPNEY, OF BOND-STREET.

This is, indeed, a splendid piece of workmanship. The dressing-case, intended for a lady's use, is manufactured out of a choice specimen of rare wood, most elaborately carved with devices illustrative of Neptune's attributes, in or moulu, richly covered and gilt. The interior arrangements are of an equally magnificent character; the stoppers of the various bottles, which are of silver gilt, bearing the name "Annie"—the lady for whom this elegant production was manufactured.

The horn candlestick from Hamburg is a pleasing specimen of a style of ornamentation peculiar to the hunting districts of Northern Germany.



HORN CANDLESTICK.—BY RAMPENDAH!, OF HAMBURG.



NEW GRAMMAR SCHOOL, IPSWICH.

THE NEW GRAMMAR-SCHOOL AT IPSWICH.

THE foundation-stone of this handsome edifice was laid by his Royal Highness Prince Albert, at Ipswich, on July 3 last, and the interesting proceedings were duly reported in our Journal of July 12.

The Ipswich School was originally founded by Royal charter; so that the laying of the first stone of this re-edification of the School-house was a well-graded compliment to the institution.

We gather, from Clarke's "History of Ipswich," that the existence of a grammar-school at Ipswich appears in the records of a great court held in the reign of Edward IV. In 1482, Richard Felaw, portman, who had been eight times bailiff of Ipswich, twice returned member of Parliament for Ipswich, made over his house and lands at Whitton for the maintenance of the master of the school, a gift still called after the name of the donor. In 1525, or the following year, Cardinal Wolsey, having founded Christchurch, at Oxford, commenced building a tributary establishment at Ipswich, upon a scale equal to that of the public schools at Eton and Winchester. At his request, Felaw's gift was alienated, and the old Grammar-School was merged into the new foundation. At the fall of Wolsey, however, his flourishing school also fell under the displeasure of his imperious master, when it was discontinued. The King then granted a new charter for the re-establishment of the old school; and the deed was enlarged and confirmed in a subsequent charter by Queen Elizabeth. The institution has since maintained its ground, and has of late years greatly increased in educational importance, under the present head-master, the Rev. J. S. Rigaud, M.A.

The corporation of Ipswich, being alive to the great advantages to be derived from this Royal foundation, determined to erect a more capacious and convenient establishment. In this object they have been assisted by some public-spirited individuals, and the result has been the commencement of the new edifice under the auspicious circumstances we have already detailed.

The site of the new School is at a short distance from the town, looking over the Arboretum and Christchurch Park on the east, and commanding an extensive view of the beautiful river Orwell and the rich valley of the Gipping on the south and west. The building, of which we have engraved the principal portion, will have a collegiate aspect, in the Tudor style, having a frontage of 168 feet, and a depth, on the south, of 110 feet. The front elevation, with its projecting porch, its gables, pinnacles, and parapets, is a picturesque composition. The porch of the main entrance will be a reproduction of the celebrated "Wolsey's Gateway," the most minute details of which will be adhered to; and the entire building, of red brick and dark mortar, will be in strict accordance with the olden structure. At the several external angles octagonal buttresses rise above the springing of the gables and ornamented parapets, and terminate in pinnacles. A tower, 70 feet high, crowns the entrance-hall. This apartment is 16 feet square, and above it are the infirmary and the convalescent-rooms. The corridors and staircases are spacious. The school-room is 62 feet

by 81 feet, and 20 feet high to the springing of the open-timbered roof. The dining-room, senior and junior class-rooms, and library, are proportionally spacious. The dormitories are 12 feet high. Lavatories, baths, and good drainage are amply provided. The play-ground comprises 6 acres. The section of the building appropriated to the use of the head-master includes convenient apartments for the under-masters. Great care has been bestowed upon the plans; and Mr. Flaury, the architect, has generously relinquished, for the benefit of the institution, all remuneration whatever for his professional services. To conclude, the building and its provisions are planned throughout in that liberal and enlightened spirit by which the inhabitants of Ipswich are uniformly characterised.

FLOGGING IN THE ARMY.—In a report made to the Secretary at War, by Lieutenant-Colonel Jebb, the Inspector-General of Military Prisons, which has just been printed in a Parliamentary paper, the subject of flogging in the army is brought forward. It seems that imprisonment, in lieu of corporal punishment, has been beneficial in its operation, notwithstanding the contrary opinion of a number of military officers. Colonel Jebb states:—"If the views of the more experienced officers in her Majesty's service as to the deterring influence of corporal punishment were correct, a great increase of crime in the army might have been anticipated, as the necessary consequences of limiting the power of courts-martial, and materially diminishing a mode of punishment deemed to be the most efficacious for the maintenance of discipline. It is, however, satisfactory to see that the result has not been unfavourable; and though it may partly be attributed to the encouragement given to good conduct, the better class of men who have entered into the service, and the partial discharge of some of the worst characters, yet, taking all this into account, I think experience has sufficiently shown that imprisonment for military offences has answered the expectations that were formed of it." In 1845, the year previous to the establishment of prisons, the number of convictions by courts-martial was 3984, and 652 corporal punishments were inflicted. In 1850 the convictions were 3306 and the corporal punishments 238. The effective force was about the same in each year—in 1845, 125,252; and in 1850, 125,119. Last year 495 lashes were inflicted, and in the preceding year 550, by the visitors of the prisons, for serious offences.

TORTOISESHELL TOM CAT.

A TORTOISESHELL Tom Cat, and a Queen Anne's farthing appear in popular estimation to enjoy a corresponding rarity. The coin is scarce, and so is the cat; but neither is so rare as traditional tale would have us believe, and this hardly allows existence.

The tortoiseshell is one of the most noted of the varieties of the domestic cat. The tortoiseshell-like marks are ascribed to a cross-breed of black and yellow. Males, as we have said, are scarce; and every year a specimen or two are offered for sale to the Zoological Society, as rarities worthy of place in their fine menagerie.

The specimen here engraved is a beautiful creature, and handsomely marked. It is fifteen months old, and is the property of Mr. John

Thurston, of Walsham-le-Willows, in Suffolk, who, in this age of the Exhibition, is about to add his "Tortoiseshell Tom" to the sights of the day.

PLATE PRESENTED TO CAPTAIN WILLCOX, R.N.

THIS piece of handsome plate has recently been presented (with the addition of a silver tea service), by the principal merchants of China, to Captain James Willcox, of her Majesty's steamer *Fury*, who, in con-



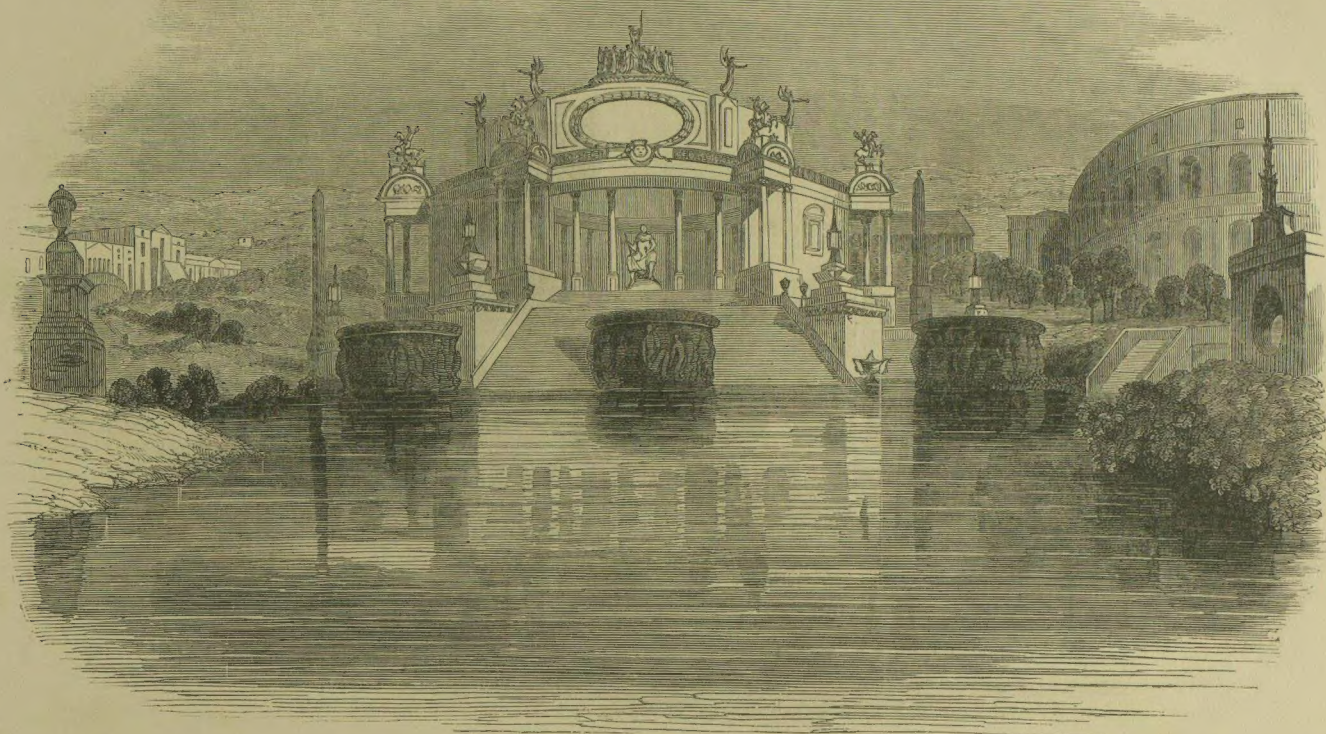
PLATE PRESENTED TO CAPTAIN WILLCOX, R.N.

junction with Captain Dalrymple Hay, of her Majesty's brig *Columbine*, and Mr. G. J. Niblett, of the Hon. East India Company's steamer *Phlegathon*, was instrumental in destroying the pirates in the China seas.

The design is elegant and characteristic, and has been beautifully executed in silver by Messrs. Hunt and Roskell. It consists of a nautical column, supporting upon oak branches an epergne glass dish; the pedestal is borne by three hippocampi, and upon it is a British sailor hoisting his national flag, whilst a Chinaman kneels in gratitude at feet.



"TORTOISESHELL TOM CAT."



"THE TEMPLE OF JANUS," AT THE SURREY ZOOLOGICAL GARDENS.

SURREY ZOOLOGICAL GARDENS.

THE picture model at this favourite resort is, this year, an effective group of interesting edifices from old Rome, in the centre of which the Temple of Janus is the most prominent feature, the lake being made to play the part of the Tiber. We will not be too hard upon the antiquarian accuracy of the picture; be that as it may, the scene is cleverly effective by day, but is seen to greatest advantage as the framework of

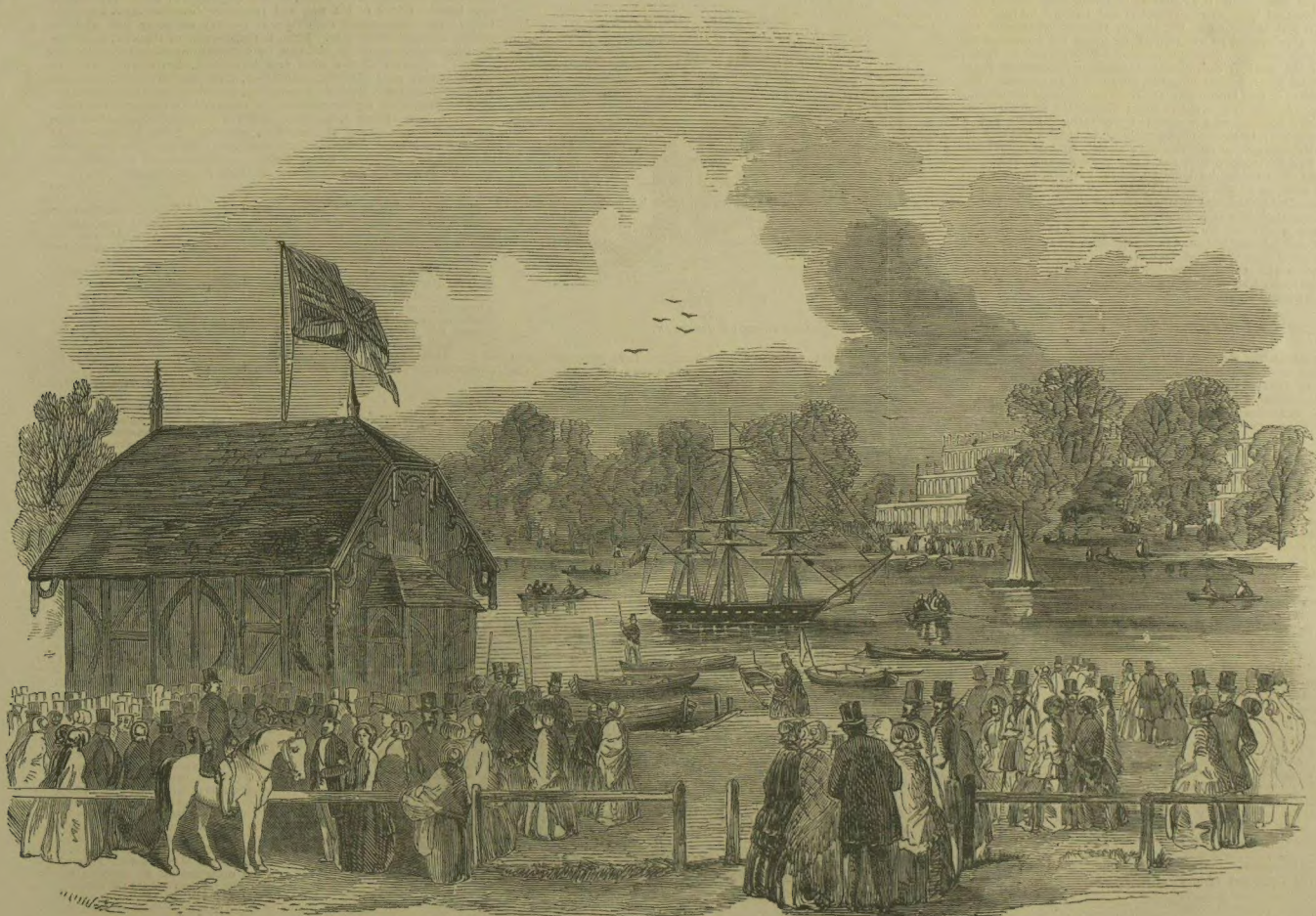
the pyrotechnic display at night, when the splendour of the *feu d'artifice* reminds one of the famed Temple of Concord at the Peace Commemoration in the Green Park, in 1814. It is certainly one of the most elegant exhibitions of the kind we have witnessed for a long time.

THE SERPENTINE, IN HYDE-PARK.

THE attraction of the Great Exhibition has extended to the Serpentine,

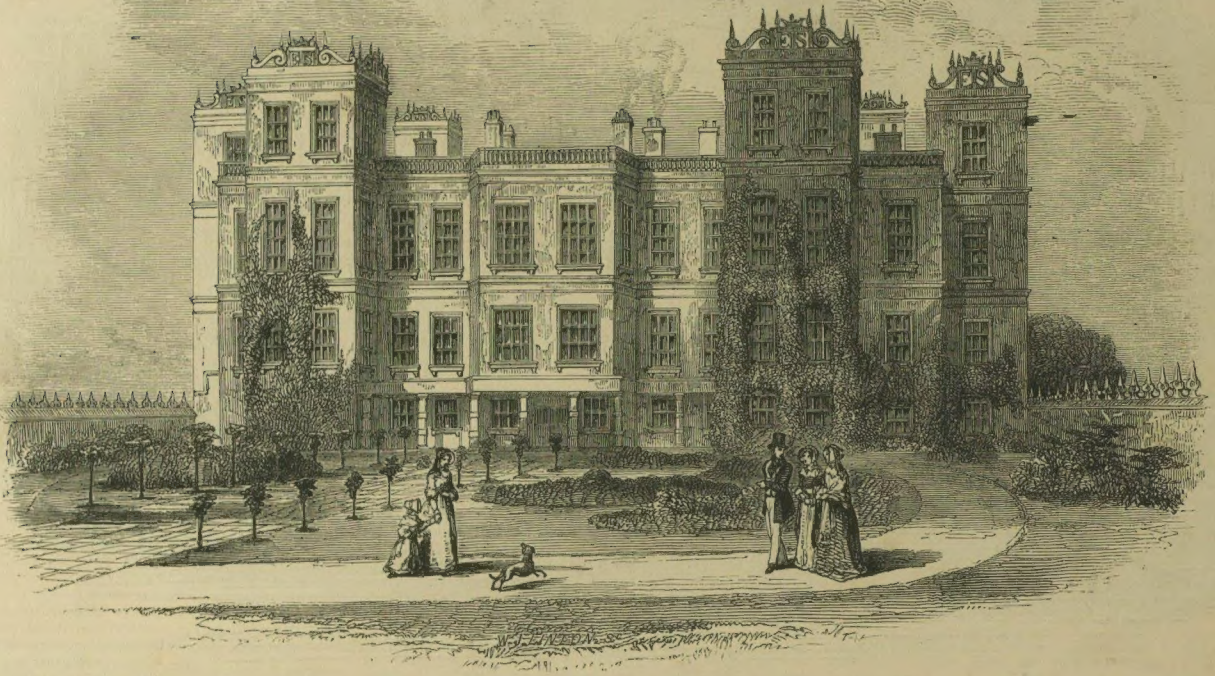
which, by the way, it was, at one time, intended to inclose for subaqueous experiments, in connexion with the wonders of the Crystal Palace.

The model frigate we have already spoken of, and in the accompanying Picture we see it surrounded with pleasure-boats, which, with a ferry, invest this fine piece of water with new life. The fashionable drive, on the north bank, is also shown in the View, and, with the flag hoisted upon the boat-house of the Royal Humane Society, denote the gay scene to have been sketched during the full tide of the past season.



THE FERRY AT THE SERPENTINE, HYDE-PARK.

HARDWICKE HALL, DERBYSHIRE



HARDWICKE HALL.—THE FLOWER-GARDEN.

This magnificent mansion, the property of His Grace the Duke of Devonshire, was visited by the members of the British Archaeological Association, during their recent congress, held at Derby.

Hardwicke is situated between Chesterfield and Mansfield. The approach to the mansion by a noble avenue is thus described by one of the excursionists:—

"The drive from Balsover to this residence of the Duke of Devonshire is very beautiful. The park is ornamented with very fine oaks, under which numerous herds of deer were to be seen quietly grazing. The present building was erected by the Countess of Shrewsbury about 1590. She was the celebrated Elizabeth Hardwicke, and married no less than four times. Her first husband was Mr. Bailey, through whom she acquired property; her second a Cavendish, from whom the present Duke of Devonshire is descended. She then married a Sir William St. Lowe, and afterwards the Earl of Shrewsbury, the keeper for so many years of Mary Queen of Scots, from whom she obtained a separation. Mr. Hardwicke's house, or Old Hardwicke Hall, almost touches the present stately building. Everything in it and about it bears the impress of the proud, determined woman, who considered her father's house not a sufficient mansion for a Countess of Shrewsbury to receive Royalty in, and, consequently, erected the present edifice almost at its gate. Wherever you turn you are reminded of her. Her initials stand out in bold relief against the sky, outside the building, on the parapet, at every corner, and from canvases in the different rooms. This indefatigable lady built Chatsworth, Hardwicke, and another place in the county of Derby. The legend runs, that it was foretold to her, that as long as she kept building, so long would her life be—a ruse, probably, of the Barry or Smirke of the day to lead her on. In accordance with this, she kept building house after house, and at last died in a hard frost when the masons could not work. On entering the hall, the first striking object is a statue at the upper end, of Mary Queen of Scots, bearing the following simple but touching inscription:—

Maria, Scotarum Regina, nata 1542;
A sula in exilium acta, 1558;
Ab hospitium data, 1587.

Tradition asserts that this was one of the seats in Derbyshire she visited, and her bed and room are shown, with her arms as Queen of Scotland and Dowager of France over the door, and her initials worked in the tapestry. The grand room in the building is the immense picture gallery, which extends the whole length of the house. In it are pictures of the Cavendishes; of the Kings and Queens of England, from Henry IV. downwards; the Court of Charles II., including all the beauties immortalised by Sir Peter Lely; philosophers, and others. The finest picture is a portrait of Thomas Hobbes, dated 1676. At the upper end of the room is a full length of Queen Elizabeth, in all the elaboration of the court dress of the time, with the high-standing ruff, the waist exactly in the middle of the body, the wide hoop, and the embroidered petticoats; and at the other, an excellent equestrian portrait of the first Duke of Devonshire. The presence chamber is also a noble room: the lower part of the sides of it are adorned with tapestry, and the upper with 'parquetting,' that is, figures in relief on plaster, and coloured. At the upper end is the canopy of state and other very curious worked velvet chairs. But, perhaps, the most interesting article of furniture in the apartment was an old music-table, round which many a madrigal and glee must have been sung. It was covered in mosaic-work with representations of music-books and musical instruments; in fact, so particular was the artist, that he had chronicled the notes on the open leaves of the

wooden books. It was a table at which an amateur singer might almost gain inspiration. The tapestry in all the rooms was very fine,



ELIZABETHAN GATEWAY.

and seemed to have exhausted for a subject both scriptural and heathen mythology. Some of the oldest pieces were the covers of the

seats and pulpit of a small chapel, which is asserted to have been used by Mary.

The approach to Hardwicke by the avenue is universally lauded by tourists. The park, with its hundreds of deer and its wide-spreading oaks, the silver stream with its wooded margin, and the fair greenward, with the Hall itself in the distance, complete a landscape such as can rarely be enjoyed except in England.

The first appearance of Hardwicke is very imposing, more especially of the old portion as approached from the west. It is seen standing in connexion with the new house, on the very crest of one of the highest and boldest ridges of the new red sandstone, overlooking a beautiful valley, and commanding an extent of country on every side which is seldom equalled in beauty. From the state-room of the new, and from the dilapidated one of the old, can be distinctly traced out some of the loftiest eminences of the High and Low Peak, Barrel Edge, and the Black Rocks, near Matlock, Middleton, and Tansley Moors, Stubbing Edge, and the great English Apennines, stretching far to the north, appear in view, with a rich and beautiful country intervening. The mansion is a lofty oblong structure of stone, of Elizabeth's time, and possesses tall square towers at each of its corners. From the avenue, the front of the mansion looks dull and cheerless; but when the gate opening upon the handsome flower-garden has been passed, this portion of the Hall changes its appearance considerably for the better.

GENERAL POST-OFFICE.—It having been ascertained that the correspondence for Lombardy can be transmitted by way of France more expeditiously than *via* Belgium and Prussia, the regulation recently laid down for sending by the latter route, unless otherwise directed, all letters and newspapers addressed to Austria, will not apply to the correspondence for Lombardy. All letters, &c., for Lombardy will be transmitted as formerly, *via* France, unless specially addressed to be sent by any other route, and will be chargeable with postage as follows:—Under ½ ounce; British, 5d.; foreign, 1s.; total, 1s. 5d. ½ ounce and not exceeding 1 ounce: British, 5d.; foreign, 2s.; total, 2s. 5d. Exceeding 1 ounce and under 1½ ounce: British, 10d.; foreign, 3s.; total, 3s. 10d. 1½ ounce and not exceeding 2 ounces: British, 10d.; foreign, 4s.; total, 4s. 10d. Exceeding 2 ounces and under 2½ ounce: British, 1s. 8d.; foreign, 5s.; total, 6s. 8d. These letters may be forwarded either paid or unpaid, at the option of the sender, but payment for a portion of the distance is not permitted.

MANAGEMENT OF THE WOODS AND FORESTS.—On the 20th of next month, the new act, alluded to by her Majesty on the prorogation of Parliament, for the better management of the Woods and Forests, will come into force. The object of the new law is to separate the management of the Woods and Forests from the direction of her Majesty's Works and Public Buildings, and to make better provision for the management of the same. From the commencement of the act, the First Commissioner of the Woods, &c. is to be the First Commissioner of the Public Works and Buildings, with a salary not exceeding £2000 a year, and he may be a member of the House of Commons. The other Commissioners of the Woods and Forests are to continue to hold their offices, and their salaries are to be provided for by Parliament, but they are not eligible to a seat in the House of Commons. The other officers are to continue in their situations. Officers may be appointed to assist in the Public Works and Buildings. The management of all the Royal parks is to vest in the Commissioner of Works, and not, as heretofore, in the Commissioners of the Woods and Forests. Parliament will also have to provide for the expenses relating to the department of the Public Works, as well as in the management of the Woods and Forests, which latter department was paid out of the revenues of the Crown possessions. After the commencement of the act the First Commissioner of Public Works is to be an Exchequer Commissioner, a Commissioner of Greenwich Hospital, and a Commissioner for carrying into execution the acts relating to Highland Roads and Bridges, a Commissioner for Building New Churches, and the President of the Board of Health.



PART OF THE OLD MANSION.